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13. ABSTRACT (Maximum 200 words) An Environmental Health Policy Study Model was applied to define the health mission in environmental programs and to identify the medical research and development contribution as a strategy. The Environment and Environmental Health definition and scope were delineated and Army organizations and relationships in both disciplines were identified. A Problem Statement (Opportunities for Improvement), and Vision were developed. Strategies to accomplish and/or improve partnerships between the two communities were identified as: Policy and Doctrine; Education and Training; Senior Leadership Buy-in; Organizations/Manpower and Personnel; Research, Development, and Acquisition; and Marketing. Conclusions were that: there is not universal acceptance of the definition and scope for Environmental Health; the potential contributions of environmental health are hampered by the lack of consensus on definition and scope; there are good examples of how the partnerships should work to integrate environmental health with environmental programs; the close working relationships and integration of programs and initiatives must be improved at all levels; medical R&D should be a separate Strategy and should complement other strategies to enhance interaction and partnering of environmental and environmental health programs; and the Environmental Health Policy Study Model and process is an appropriate way to evaluate and formulate policy.				
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FOREWORD

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CONTENTS

Subject	Page No.
Foreword	2
List of Tables	5
List of Figures	6
Executive Summary	7
Introduction	16
Background	16
Project Purpose and Objectives	16
Purpose of This Report	17
Materials and Methods	18
Environmental Health Policy Study Model	18
Research Phases	20
Critical Review	21
Results	23
Assessment of the Current Situation	23
Environment - Definition	23
Environmental Health - Definition and Scope	23
Organizational Relationships	29
Development of a Problem Statement and Recognition of Opportunities	

for Improvement	41
 Opportunities for Improvement (Problem Statement)	43
Establishment of a Vision and a Vision Statement	44
 The Vision	52
Identification of Management Options and Strategies	53
Suggestions for Implementing Options	55
Summary and Conclusions	56
Recommendations	58
Acknowledgments	59
References	60
APPENDICES:	
 A. Abbreviations and Acronyms	62
 B. Organizations Questionnaire	66
 C. Environmental and Environmental Health Professionals Who Participated in the Work Group Meetings	69
 D. Environmental and Environmental Health Professionals Who Participated in the General Meeting	71
 E. US Army and Related Organizations Believed to Have Environmental / Environmental Health Missions or Programs	76
 F. Strategic Distribution List	134

LIST OF TABLES

Number/Title	Page No.
1. Policy Study Process	20
2. Work Group Focus on the Current Situation	37
3. General Meeting Comments on the Current Situation	38
4. Focus on the Problem Statement	43
5. First Work Group Focus on the Vision	45
6. General Meeting Comments / Observations Concerning a Vision	49
7. Second Work Group Focus on the Vision	51
8. Second Work Group Focus on the Vision	52
9. Work Group Ideas for Strategies	54

LIST OF FIGURES

Number/Title	Page No.
1. The Environmental Health Paradigm	25
2. Army Environmental & Environmental Health Organizational Structure	31
3. Stakeholders and Organizations External to the US Army that Either Influence or are Affected by Environmental and Environmental Health Actions	39

ASSESSMENT OF THE HEALTH ROLE IN ENVIRONMENTAL PROGRAMS

EXECUTIVESUMMARY

Introduction

The US Army Medical Research and Materiel Command (MRMC) commissioned and approved this study to help delineate the role of Army medical research and development in Army nonmedical programs such as those in environmental quality. This study is one tool that the Director, US Army Center for Environmental Health Research (USACEHR) and MRMC can use to help assess USACEHR's existing and emerging role in Army, military, environmental, and research and development (R&D) programs.

The purpose of this study is to assess the health role in environmental programs within the U.S. Army. Specific emphasis is directed towards identifying and assessing the potential contribution of research and development as a strategy. The goal is to clearly define the health mission in environmental programs, and to help develop effective policy options and management strategies, including research and development. Study results should be valuable in helping produce successful programs for protecting human health, the soldier, and the environment. Objectives of the study are:

- to determine and evaluate existing environmental health policy, standards, and management strategies, including research and development,
- to formulate policy options and management strategies,
- to develop ideas and delineate considerations for implementing selected policy and strategies,
- to develop a method for evaluating the integration of environmental and health programs throughout DOD and that will have workable interfaces with other military services and government agencies, and
- to publish a model strategy for integrating health with environmental programs.

Materials and Methods

The methods applied to this study involve literature review (to include policy and procedures documents), interview of selected individuals, and questionnaire responses to help develop ideas and issues for consideration and discussion. It also involved sponsoring group meetings of representatives from Army, DOD, and other federal organizations, topical experts, and others to facilitate brain-storming sessions, to critique the process and products, and to provide recommendations about courses of action and implementation plans.

Environmental Health Policy Study Model. The study is incorporated into an overall

Environmental Health Policy Study Model that we developed and that is designed to assess the current situation and develop a problem statement, establish a vision with goals and objectives, identify issues and dilemmas that are obstacles, develop options to obtain the vision, and develop ideas for implementing a recommended option.

Research Phases. Specific application of the model to this study is as follows:

Problem Definition/Needs Assessment. The objective of this portion of the study is to determine and evaluate existing environmental health policy, standards, and management strategies, to include research and development.

Policy Options and Management Strategies. The objective is to formulate policy options and management strategies.

Implementation Plan. The objective is to develop ideas and delineate considerations for implementing selected policy and strategies. We attempted to answer the question, "How do we best implement our policy options and strategies?"

Results

For the purpose of this study we consider *Environment* to be defined simplistically and broadly as follows:

The Environment is everything that is external to the body, i.e., beyond the skin, and any influence other than hereditary (genetic) factors.

Environmental Health - Definition and Scope

Because there are dozens of definitions for and no general consensus on the definition for *environmental health*, in order to assess the current situation it was necessary to develop a working definition as follows:

Environmental Health is the science and practice of anticipating, recognizing, evaluating, and controlling environmental factors to prevent adverse human health and performance effects.

Environmental factors include biological, chemical, physical, and radiological matter or phenomena. The focus is on protection of human health although damage to ecological health also should be avoided.

The *scope* of environmental health can be viewed from several perspectives. The most common view is a list of *topics* that environmental health covers. We view the scope of environmental health as quite broad. Based on our working definition, the scope of environmental health includes all topics that are considered environmental factors with the potential to cause adverse health effects. Another perspective for the scope of environmental health is the *functions* covered and includes *setting standards, implementing controls, conducting monitoring, and formulating policy* for each topical area, and in general.

Also, as part of the *Current Situation*, we identified both environmental and environmental health organizations and determine their organizational relationships within the Army and in relation to each other. We have identified and list (along with selected information, e.g., mission statements, governing regulations/directives, addresses, points-of-contact, etc.) Army organizations that have a specific environmental and/or environmental health mission or are performing activities that are associated with these areas. These also include many of the Army Staff, Major Commands (MACOM's) and other organizations or activities described in Army Regulation (AR) 200-1, *Environmental Quality, Environmental Protection and Enhancement*

Environmental health programs are diverse and found at many organizational levels throughout the Army. However, with the exception of the field (i.e., Table of Organization and Equipment, TO&E) units, most environmental health programs are within the MEDCOM. In the Army, environmental health programs are identified as a component of the overall Preventive Medicine program and a responsibility of the AMEDD. Environmental health functions are found at the Office of the Surgeon General (OTSG), US Army Medical Command (MEDCOM), US Army Center for Health Promotion and Preventive Medicine (CHPPM), installation level environmental health services are provided by a Preventive Medicine Activities (PMA; also a MEDCOM asset), and the US Army Medical Research and Materiel Command (MRMC; as a part of its Military Operational Medicine Research Program). MACOM staffs usually have a Command Surgeon, or equivalent, who advise the commander on medical matters, to include environmental health issues.

Environmental programs also are diverse and are decentralized. Different aspects of environmental programs are found at many organizational levels throughout the Army. Environmental programs historically have been the responsibility of the engineering community led by the US Army Corps of Engineers. Currently, responsibilities for various aspects of environmental programs occur at the levels of the Army Secretariat (i.e., the Assistant Secretary of the Army for Installations, Logistics, and Environment [ASA(IL&E)] and Assistant Secretary of the Army for Manpower and Reserve Affairs [ASA(MRA)] with some delegation to the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health [DASA(ESOH)]) and the Army Staff (i.e., Assistant Chief of Staff for Installation Management [ACSIM] with some delegation to the Office of the Director of Environmental Programs [ODEP]). The Army Environmental Policy Institute (AEPI), under the direction of the DASA(ESOH), assists the Army Secretariat in the development of proactive environmental

policies and strategies. The US Army Environmental Center (AEC), under the leadership of the ACSIM's ODEP, supports Army major command (MACOM) environmental staffs and various U.S. Army Corps of Engineers' (USACE) organizations by providing technical and consultative services, e.g., conducting site investigations, environmental sampling and testing, reviewing environmental requirements, etc. The USACE is a MACOM comprised of several regional districts, divisions, and laboratories that conduct environmental restoration of installations and formerly used defense sites, provide environmental management services, performs research and development to include the areas of environmental quality and pollution prevention. Other MACOMs (e.g., the US Army Training and Doctrine Command [TRADOC], US Army Forces Command [FORSCOM], US Army Europe [USAREUR], etc.) typically have an environmental staff at the command level which monitors and provides policy and guidance to subordinate commands, activities, and installations concerning Army, Federal, and other environmental quality requirements for compliance, cleanup, pollution prevention, etc. Generally, on Army installations environmental programs are implemented and monitored by an Environmental Coordinator and/or staff assigned to the Directorate of Public Works, an installation staff office.

The existing relationship between environmental and environmental health programs can be explored by first reviewing selected Army Regulations (ARs) that address both areas and prescribe how they should interact. Army environmental (e.g., ARs 200-1 and 200-2) and medical regulations (e.g., ARs 40-5 and 40-10) prescribe interactions between the two communities. There are both formal and informal relationships and collaborations between the environmental and environmental health communities. These occur at the Secretariat level (DASA(ESOH)), AEPI (has had AMEDD fellows), US Army Environmental Center (AEC) - CHPPM interaction, and some MACOM (TRADOC, AMC) environmental offices have had or currently have AMEDD officers assigned to their staff. The Army Environmental Center (AEC) and the AMC Army Acquisition Pollution Prevention Support Office (AAPPSO) are examples of situations where currently there is consistent and programmatic integration of health considerations into several environmental programs. However, there are certain situations that either explicitly or potentially limit the relationship between the environmental health and environmental communities. These can be depicted as circumstances to be reflected in a *Problem Statement* or identified as *Opportunities for Improvement*. We suspect that generally the interaction between Army environmental and environmental health communities is selective, perhaps sporadic, and in some cases not adequate to address health issues in environmental programs in a consistent manner. There does not seem to be a systematic and programmatic integration of the two areas.

The term *Problem Statement* usually is applied to the phase of the *Environmental Health Policy Study Model* that concludes the *Assessment of the Current Situation*. The purpose of this statement is to highlight areas that should be addressed and considered when trying to understand the current situation. However, *the Problem Statement is not a single entity that should be reviewed and considered alone*; it must be read and understood in relationship to the *Current Situation* which reflects events as they presently exist without casting judgment, positive or

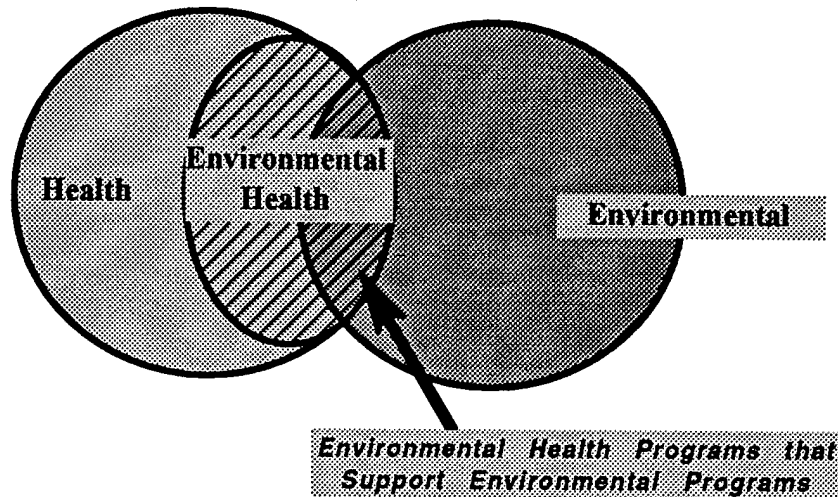
negative. Our findings should not convey the idea that all relationships between the environmental and environmental health communities are disparaging. To the contrary, there are several situations (e.g., the AEC-CHPPM collaboration, DASA(ESOH) staffing, AAPPSO, etc) that are thriving healthy relationships that should be highlighted and studied as models for improving the situation throughout the rest of the Army. Because of these situations we also apply the phrase *Opportunities for Improvement*. Given such conditions, the following *Opportunities for Improvement (Problem Statement)* is offered:

The need and authority to have full cooperation between environmental programs and environmental health programs, as currently structured in the US Army, is established in both medical and environmental regulations. There are situations throughout the Army where, because there is active interaction between the environmental and environmental health communities, resulting environmental actions protect human health and the natural environment by technologically and fiscally efficient means. However, such interaction and cooperation between the two communities does not permeate the Army organizational structure. It is variable, often limited, and in some cases does not exist. Thus, environmental efforts may be undertaken without health/medical input which can lead to environmental decisions and actions that are: not health-based; may be technologically and economically excessive; or may not eliminate or mitigate a health threat to an acceptable level. Environmental personnel often are not aware of the health role for environmental programs. Environmental health personnel often are not aware of the environmental functions of all organizations. Even medical personnel are not always aware of environmental health functions (i.e., setting standards, implementing controls, monitoring, and policy). These deficits in awareness are complicated further by the lack of a comprehensive Environmental Health definition which allows one to relate it to Army environmental programs. Fragmentation of Environmental Health topics and responsibilities have allowed work to go undone. Because of such deficiencies there is not a comprehensive, systematic, continuous effort to develop environmental health standards and policies that are appropriate for military concerns. This, in turn, limits programmed research and development that should provide the data and technology base to support the environmental health functions. The underlying root problem is that, in practice, health considerations are not an integral part of environmental programs because both are perceived as separate and distinct from each other and are not represented equally at various organizational levels throughout the Army.

The Vision

Our vision recognizes that while environmental health should interact with environmental programs, it encompasses more than the topical areas typically addressed by military

environmental programs. This is illustrated by the following diagram (not to scale):



This relationship led to a vision concept that would include core values shared by both the environmental and environmental health communities, e.g.: protected human health, environmental stewardship, fiscal responsibility, cost- and outcome effectiveness, preservation (e.g., medical preservation enhancing readiness through health and environmental preservation enhancing readiness through availability of training areas), compliance with laws, and reflecting the will of people. From these considerations the *Vision Statement* that was developed is:

The effect of all Army environmental plans, decisions, and actions reflect impact on human health.

The *goal* to reflect our vision is:

To integrate environmental health in all environmental plans, decisions, and actions.

Summary and Conclusions

This study was commissioned by the US Army Center for Environmental Health Research and the US Army Medical Research and Materiel Command, and one specific emphasis

was to focus on medical research and development as a strategy for enhancing the relationship between environmental and environmental health programs. However, because of the issues that were identified and the existing relationships between the two communities the study necessarily had to address organizational relationships and dynamics at multiple levels of the US Army ranging from the Secretariat through the ARSTAF through MACOMs to installations. Even though military field operations (e.g., strategic [environmental security] and tactical [theater] operations) were not addressed in this study, growing concerns and emphasis on environmental issues in this area also suggest that medical interplay is necessary and the organizational dynamics discussed in this study are applicable.

In order to achieve the best return for our investment in these austere times, the close working relationships and integration of the environmental and environmental health programs and initiatives must be continually improved at all levels of the defense organizations, such as Deputy Undersecretary of Defense, Environmental Security (DUSD-ES) and Health Affairs; Deputy Assistant Secretary of the Army, Environment, Safety, and Occupational Health [DASA(ESOH)] and Office of the Surgeon General (OTSG); AEC and USACHPPM; and Installation Directorate of Public Works (DPW) and Preventive Medicine (PVNTMED) services.

Strategies that could be applied to accomplish and/or improve partnerships include:

- *Policy and Doctrine.* Enforce, fully implement, modify existing policy and doctrine, or develop and implement new ones to improve the relationship between the environmental and environmental health communities.
- *Education and Training.* Educate and train environmental health and environmental professionals about the total scope, capabilities, resources, and access to each community.
- *Senior Leadership Buy-in.* Obtain Secretariat and ARSTAF advocacy to fully partner environmental and environmental health programs and activities at all levels throughout the Army.
- *Organizations/Manpower and Personnel.* Develop formal partnerships (e.g., virtual assignments, liaison positions, TDA assignments, etc.) between environmental and environmental health programs and activities (to include the Safety Community's role in Occupational Health) at all levels throughout the Army.
- *Research, Development, and Acquisition.* Develop formal processes to identify medical/ health / environmental health research needs in environmental programs and activities and to develop them into funded research requirements.
- *Marketing.* Market a total environmental health program (i.e., resources/services at

installations and MACOMs, CHPPM organizations, MRMC/USACEHR capabilities, etc.) to all environmental programs and activities providing information, e.g, what environmental health is, why it is needed / consequences of not employing, how to acquire service/support, etc.

Medical Research and Development is a *Strategy* that could be employed to enhance the relationship between the environmental and environmental health communities. It is a strategy for developing and improving the technology associated with the specific topical areas and functions of environmental health. It provides basic biological and health effects information that allows the formulation of health risk assessments to influence the standards setting process. It also affects *controls* and *monitoring* by discovering new analytical and treatment methodologies. By influencing environmental health critical *functions*, Army medical research and development affects the application of science and the practice of environmental health, and thus can have a major impact on setting policy. While there is a defined mechanism for establishing research requirements for military materiel that support combat doctrine, there is not an equivalent system for establishing research requirements for needs that are not related to combat doctrine nor to support environmental efforts. Therefore, R&D should be a separate *Strategy* and it should be a component of the other strategies. For example, as a component of the *Education/Training Strategy*, environmental health personnel who are strategically located throughout the Army to support environmental programs, in addition to global knowledge about Army environmental health programs and services (e.g., CHPPM, MEDCOM, etc, would be taught about the role and mission of medical R&D programs, how to access MRMC support, and how to develop/influence research requirements.

The following are specific *conclusions*:

- There is not universal acceptance of the definition and *scope* (including *topics* and *functions*) for *Environmental Health*.
- The potential contributions of environmental health personnel and programs are hampered by the lack of consensus on definition and *scope* (*functions*).
- The integration of environmental health with environmental programs as practiced by AEC-CHPPM and AAPPSSO are positive (good) examples of how the partnership should work.
- The close working relationships and integration of the environmental and environmental health programs and initiatives must be continually improved at all levels of the defense organizations.
- Medical R&D should be a separate *Strategy* and it should complement other strategies to enhance the interaction and partnering of environmental and environmental health

programs and organizations.

- Our *Environmental Health Policy Study Model* and process is an appropriate way to evaluate and formulate policy.

Recommendations

- Develop consensus on environmental health functions for major environmental programs (e.g., Chem-Demil, NBC-e, JGAPP, etc.) and at each organizational level.
- Continue to expand and refine the information to fill in data gaps about individual organizations by personal interview and questionnaire.
- Conduct additional more focused studies, perhaps in coordination with AEPI, at various Army organizational levels (e.g., installation, MACOM, ARSTAF, Secretariat).

ASSESSMENT OF THE HEALTH ROLE IN ENVIRONMENTAL PROGRAMS

Introduction

Background

The US Army Medical Research and Materiel Command (MRMC) commissioned and approved this study as a tool to help delineate the role of Army medical research and development in Army nonmedical programs such as those in environmental quality. The US Army Center for Environmental Health Research (USACEHR) has evolved as an Army medical research laboratory from an organization previously known as the US Army Biomedical Research and Development Laboratory (USABRDL), which was a subordinate laboratory of MRMC (at that time the command was known as the Medical Research and Development Command). The former USABRDL was restructured as part of military Base Realignment and Closure (BRAC) activities and some of its organizational elements and personnel were relocated and consolidated with other Army medical organizations. The remaining elements eventually were redesignated as the USACEHR as a laboratory subordinate to the US Army Research Institute of Environmental Medicine (USARIEM). The USACEHR Laboratory Director continually evaluates the laboratory's role in military medical research and the Army's/Department of Defense's (DOD) current and future missions and objectives. This study is one tool that the Director and MRMC can use to help assess USACEHR's existing and emerging role in Army, military, environmental, and research and development (R&D) programs.

Project Purpose and Objectives

The purpose of this study is to assess the health role in environmental programs within the U.S. Army. Specific emphasis is directed towards identifying and assessing the potential contribution of research and development as a strategy. The goal is to clearly define the health mission in environmental programs, and to help develop effective policy options and management strategies, including research and development. Study results should be valuable in helping produce successful programs for protecting human health, the soldier, and the environment.

Objectives of the study are:

- to determine and evaluate existing environmental health policy, standards, and management strategies, including research and development,
- to formulate policy options and management strategies,
- to develop ideas and delineate considerations for implementing selected policy and strategies,
- to develop a method for evaluating the integration of environmental and health programs throughout DOD and that will have workable interfaces with other military

- services and government agencies, and
- to publish a model strategy for integrating health with environmental programs.

Initially, Deployment Toxicology was to be used as a case study for this research effort; however, because other efforts have been initiated to address that subject, this study will focus on a general strategy.

Purpose of This Report

This is the final report for the project *Assessment of the Health Role in Environmental Programs* in satisfaction of the U.S. Army Medical Research and Materiel Command Project number MDA 905-96-C-0024. It is a culmination of research and findings that were reported previously in two progress reports ^{1,2}, a draft problem definition and needs assessment report ³, proceedings from meetings with environmental and environmental health professionals ⁴, and additional information provided by other health and environmental professionals. Abbreviations and acronyms used throughout this report are explained in **Appendix A**.

Materials and Methods

The methods applied to this study involve literature review (to include policy and procedures documents), interview of selected individuals, and questionnaire responses to help develop ideas and issues for consideration and discussion (see a copy of the questionnaire in **Appendix B**). It also involved sponsoring group meetings of representatives from Army, DOD, and other federal organizations, topical experts, and others to facilitate brain-storming sessions, to critique the process and products, and to provide recommendations about courses of action and implementation plans.

Environmental Health Policy Study Model

The study is incorporated into an overall *Environmental Health Policy Study Model* that we developed and that is designed to assess the current situation and develop a problem statement, establish a vision with goals and objectives, identify issues and dilemmas that are obstacles, develop options to obtain the vision, and develop ideas for implementing a recommended option. The following paragraphs discuss definitions and concepts of the study process model.

Policy by definition is *a selected course of action*.⁵ Our definition for *policy* is a selected course of action to achieve a desired result. The desired result is often expressed best by use of a vision statement, goals, and/or objectives. Our vision statement, goals, and objectives for environmental health, in general, are expressed as follows:

Vision. Managers and employees are guardians of human health and the environment. Proactive efforts at all levels are focused on managing risks and containing costs to the extent possible.

Goal. The goal of environmental health is to prevent harm to, and enhance the quality of, human health and the environment.

Objectives.

- *Compliance* -- To comply with all applicable federal, state, and local (or host nation) environmental and health laws.
 - *Conservation* -- To conserve public and natural resources.
 - *Prevention* -- To protect human health and prevent pollution.
 - *Restoration* -- To restore facilities, land, and waters damaged through past practices.
-

There are several essential *strategies* that can be employed to accomplish our desired results:

- *Management Commitment and Employee Involvement* -- To encourage all employees including management to be guardians of human health and the environment, committed to helping accomplish environmental and health objectives.
- *Risk Management* -- To eliminate unnecessary risks to human health and the environment while using environmental resources wisely and containing costs.
- *Science & Technology* -- To help identify actual and potential risks to human health and the environment; to help develop appropriate policy, standards, controls and monitoring programs; and to facilitate improved management results such as reduced risks and costs.

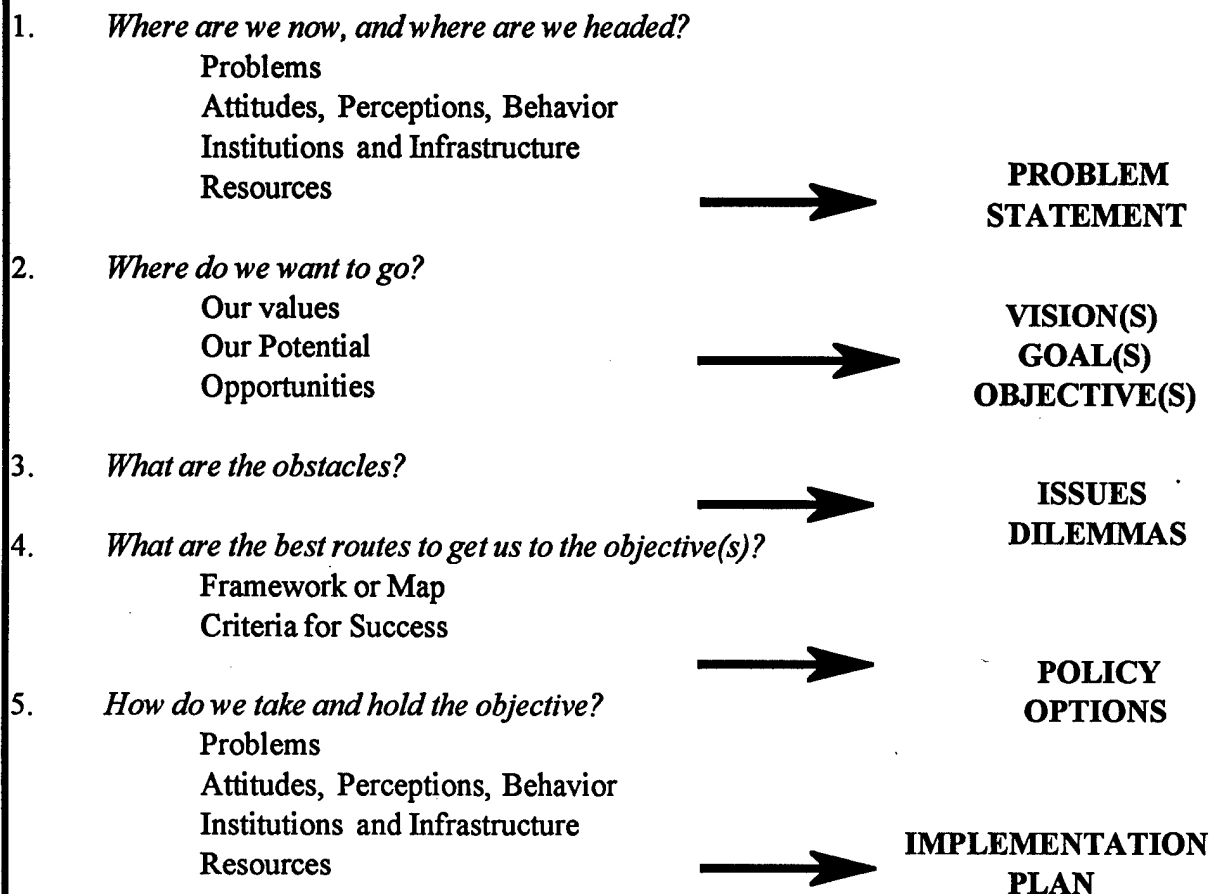
The US Assistant Secretary of Labor for Occupational Safety and Health has published safety and health management guidelines which apply to places of employment covered by OSHA standards.⁶ Major elements include management commitment and employee involvement, worksite analysis, hazard prevention and controls, and safety and health training. Specific actions are recommended by OSHA to implement these major elements. Example actions include a clearly stated worksite policy with goals and objectives, ensuring that managers understand their safety and health responsibilities, and ensuring that all employees understand the hazards to which they may be exposed. These guidelines coincide with strategies and functions listed above and can be adopted for military use.

In addition to policy for environmental health in general, policy for specific topical areas (e.g., drinking water) should be developed or formulated. Also, it might be best to formulate policy for related groups of topical areas rather than for some specific topics. An example is policy for hazardous materials, which should cover topics of hazardous waste, medical waste, toxic and hazardous substances, and more. On the other hand, if policy formulation focused only on hazardous waste management, opportunities for pollution prevention and hazard elimination would be lost.

Policy studies should be conducted to help achieve better policy. A study can be done quickly when necessary. A *policy study* is an assessment of the current situation, plus a vision for the more ideal, and an implementation plan for options to achieve the vision. Writing about strategies for developing personal mastery, Senge⁷ stated,

But the key concepts which we have found valuable for this discipline were developed and articulated by composer/teacher Robert Fritz. He designed a three-stage process for adopting a "creative" orientation to life: articulating a personal

Table 1. Policy Study Process



vision, seeing current reality clearly, and choosing: making a commitment to creating the results you want.

These key concepts apply directly to policy formulation. But we start by trying to see current reality clearly. Our policy study process is presented in Table 1. To help articulate a vision one can reflect upon personal and organizational values, potential, and opportunities; by setting goals and objectives one can communicate the vision more specifically to others. To choose (to make a commitment to creating the results one wants) one needs to be aware of obstacles, see the available options, and develop an implementation plan. Finally, one should be aware that the new choice will create a new situation with new problems.

Research Phases

Specific application of the model to this study is as follows:

- **Problem Definition/Needs Assessment.** The objective of this portion of the study is to determine and evaluate existing environmental health policy, standards, and management strategies, to include research and development. The study addresses the magnitude of Army environmental concerns to include the financial and operational liability that the Army will endure to mitigate environmental contamination to "acceptable levels." Examples of army environmental concerns include those associated with installation operations, field operations (training and actual situations), and installation restoration. "Acceptable levels" will be addressed in terms of the public's trust, perception, and acceptance of the army's ability to identify health hazards and to clean polluted sites to these levels. The study will attempt to answer the two questions: "where are we now?" and "where are we headed?" it will address problems; attitudes, perceptions, and behavior; institutions and infrastructure; and resources. A problem statement was developed and presented.
- **Policy Options and Management Strategies.** The objective is to formulate policy options and management strategies. The study evaluates the potential return on the investment in environmental health programs in terms of money saved, improved public perceptions/relations, operational benefits in deployment situations, and benefits to society. The study attempts to answer the following questions: where do we want to go? what are the obstacles? What are the best routes to get us to our objectives? While considering the current problem definition, our values, potential, and opportunities, we developed a vision, goals and objectives. Next, we considered the issues and obstacles. Finally, we considered criteria for success and frameworks or paradigms while formulating specific policy options and management strategies. We will discuss advantages and disadvantages of each option and strategy.
- **Implementation Plan.** The objective was to develop ideas and delineate considerations for implementing selected policy and strategies. We attempted to answer the question, "How do we best implement our policy options and strategies?" We discuss considerations for an implementation plan to include the new set of problems; attitudes, perceptions, and behavior; institutions and infrastructure; and resources for selected policy and strategies. Organizations that have strategic roles in formulating and implementing environmental and health policies are identified and included on a "Strategic Distribution List." This list can be the basis for determining the organizations and activities that should be involved in implementing Army environmental health policy and strategy. A model strategy for integrating health with Environmental programs is included.

Critical Review

An integral part of the *Environmental Health Model Study Process* is to acquire critical review and input from topical experts and stakeholders. Three meetings were convened to

acquire such review. Two of the meetings were designed to involve a *Work Group* of approximately ten environmental and environmental health professionals specially selected because of either their breadth of experience in these areas and/or their current roles in such programs. A third *General Meeting* was designed to involve a larger group of individuals from both communities to allow more extensive review, input, and feedback.

Results

Our results are structured to reflect the various stages of the *Environmental Health Policy Study Model* to include assessment of the current situation, development of a problem statement, establishment of a vision and a vision statement, identification of management options and alternatives, and suggestions for implementing the options. These results incorporate a review of the literature and the critical comments, ideas, and observations derived from two *Work Group Meetings* (held on December 2 and 16, 1997) and a *General Meeting* (held December 3, 1997). **Appendices C and D** list the environmental and environmental health professionals who participated in the three meetings. Most comments and observations that were recorded at all meetings are listed in tables throughout this section. We elected to present them here as recorded to allow them to be considered and used appropriately if the efforts of this process develop into a formal strategy with goals, objectives, and tasks.

Assessment of the Current Situation

Environment - Definition

In order to discuss and assess Environmental Health programs we first should define the term *Environment*. There are various definitions and each may convey different implications in terms of relationships with and effects to people or on flora and fauna. Salvato⁸ defines environment as *the sum of all external influences and conditions affecting life and development of an organism (including man)* and includes *the air, water, and land and the interrelationship which exists among and between air, water, and land and all living things*. Moeller⁹ discusses four ways of defining the environment to include: a differentiation between the *inner* (within the human body) versus the *outer* (outside the human body) *environment*; *the personal* (over which people have control) versus *ambient* (over which people have essentially no control) *environment*; *the gaseous, liquid, and solid environments*; and the *chemical, biological, physical, and socioeconomic environments*. The US Army's regulation concerning environmental protection, AR 200-1, does not define environment, but rather lists *elements of the environment* to include: navigable waters, near-shore and open waters and any other surface water, groundwater, drinking water supply, land surface or subsurface area, ambient air, vegetation, wildlife, and humans.¹⁰ For the purpose of this study we consider *Environment* to be defined simplistically and broadly as follows:

The Environment is everything that is external to the body, i.e., beyond the skin, and any influence other than hereditary (genetic) factors.

Environmental Health - Definition and Scope

In order to assess the current situation we developed a working definition and detailed

discussion of *environmental health*.

Environmental Health can be defined by addressing each term separately and then in combination. A simplistic definition for *environment* was given previously, and *health* can be defined as the physical, chemical, and biological (to include physiological and biochemical) condition of the body. Thus, *Environmental Health* can be viewed as the relationship between external influences on the physical, chemical, and biological condition of the body. Alternatively, it can be viewed as the study of interactions between people and their environment and the problems arising from these interactions. Gordon¹¹ notes that there are dozens of definitions for environmental health which demonstrates the lack of consensus about the field. He further identifies a definition that was developed by 75 federal, state, and local environmental health and protection leaders:

...the art and science of protecting against environmental factors that may adversely impact human health or the ecological balances essential to long term human health and environmental quality. Such factors include, but are not limited to air, food and water contaminants; radiation; toxic chemicals; wastes; disease vectors; safety hazards; and habitat alterations.

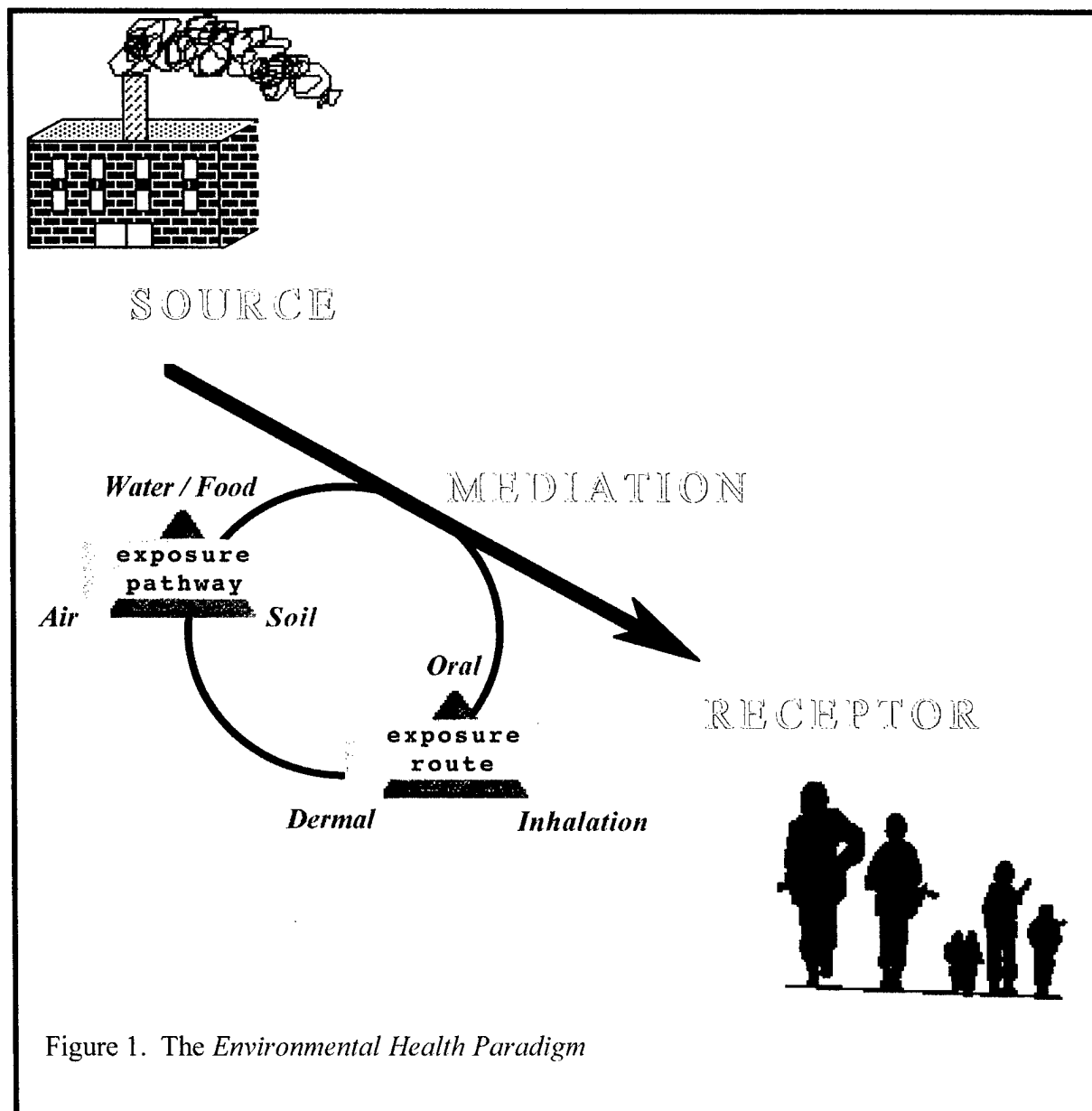
Most authors of environmental health texts do not give a definition for it; rather, they talk about the scope of environmental health. But Salvato⁸ presented a US Public Health Service (USPHS) definition:

The systemic development, promotion, and conduct of measures which modify or otherwise control those external factors in the indoor and outdoor environment which might cause illness, disability or discomfort through interaction with the human system. This includes not only health and safety factors, but also aesthetically desirable conditions in accordance with community demands and expectations.

Our working definition is:

Environmental Health is the science and practice of anticipating, recognizing, evaluating, and controlling environmental factors to prevent adverse human health and performance effects.

Environmental factors include biological, chemical, physical, and radiological matter or phenomena. The focus is on protection of human health although damage to ecological health also should be avoided. The environmental health professional must strive not only to recognize, evaluate and control those environmental factors which might cause adverse health effects; but



he/she must try to *anticipate* conditions and situations which might lead to adverse health effects so they can be avoided or controlled. It follows from the definition that the *goal* of environmental health is to prevent harm to, and enhance the quality of, human health and the environment.

To affect the environment or human health a series of events that we call the *Environmental Health Paradigm* or *Chain* (similar to the *Chain of Infection*) must occur and include a contaminant *Source*, *Mediation* process, and a susceptible *Receptor*. This relationship is illustrated in **Figure 1**.

Sources of environmental agents are ubiquitous occurring throughout the natural environment, workplace, and home. *Environmental agents* may be physical (e.g., noise, radiation, heat, cold), chemical (e.g., solvents, asbestos), or biological (e.g., viruses, bacteria). Some are released intentionally in quantities believed to be "safe", e.g., incinerator emissions and wastewater treatment plant effluents. Unintentional releases may be accidents or unlawful (e.g., illegal dumping). Environmental agents may be anthropogenic or they may exist naturally in the environment at concentrations harmful to people (e.g., radon, fluorides, arsenic, and nitrates in water sources).

Mediation describes the processes that move environmental agents to receptors and includes the *exposure pathway* and *route*. Environmental agents disperse and move through environmental compartments (air, water, soil) or through several routes (multiple pathways). Substances may dissolve into water, adsorb to soil particles, or vaporize into the air. They may contact receptors directly, or successively pass through plants and animals while increasingly concentrating at each level, i.e., *bioaccumulate*. Toxicity can increase or decrease due to chemical changes as substances pass through environmental compartments or organisms, i.e., *biotransformation*. The *exposure routes* - *inhalation, ingestion, skin adsorption* - may affect the receptor's dose which also is influenced by the contaminant's chemistry and concentration.

The *receptor* may be an individual person or groups of people, e.g., communities and populations (males, females, workers, etc.) or an ecosystem. The receptor must be *susceptible* to the environmental agent for an adverse effect to occur. This is influenced by exposure (concentration and duration) and dose. Generally the public health perspective focuses on groups of people rather than individuals. In the military the significant group may be determined by the structure of an organization and the size of the force required to sustain a mission.

The *scope* of environmental health can be viewed from several perspectives. The most common view is a list of *topics* that environmental health covers. A review of the table of contents from texts on environmental health shows what the author(s) have considered to be the scope of environmental health. For example, Salvato⁸ covers control of communicable and certain noninfectious diseases, water supply, wastewater treatment and disposal, solid waste management including special wastes (e.g., medical wastes) and hazardous waste, air pollution and noise control, radiation uses and protection, food protection, recreation areas and temporary residences, vector and weed control and pesticide use, the residential and institutional environment, as well as planning and administration. Moeller⁹ covers: toxicology, epidemiology, air in the home and community, the workplace, water and sewage, food, solid waste, rodents and insects, injury control, electromagnetic radiation, energy, disaster response, risk assessment, as well as a macroscopic view (global problems).

We view the scope of environmental health as quite broad. Based on our working definition, the scope of environmental health includes all topics that are considered environmental factors with the potential to cause adverse health effects. Our scope of topics includes health

aspects of drinking water and recreational waters, wastewater collection and disposal, solid and hazardous waste, air emissions, hazardous materials, occupational hazards, radiation protection, temperature extremes (heat and cold), food, vector control and pesticide use, housing, personal hygiene, and more.

Another perspective for the scope of environmental health is the *functions* covered. Authors of texts are often not as obvious or clear about functions as they are about topics. For example, in his *Table of Contents*, Salvato⁸ lists *control*, *planning*, and *administration* as part of major headings. Moeller⁹ lists *standards* and *monitoring* among his major headings. Based on our definition of environmental health, *science* and *practice* are components; environmental health professionals must understand the relevant science and apply it to protect human health, both by preventing and solving problems. Again, the goal is to prevent harm to, and enhance the quality of, human health and the environment. The application of science (i.e., the *practice* of environmental health) includes critical functions of setting standards, implementing controls, conducting monitoring, and setting policy. That is, the scope of environmental health includes *standards, controls, monitoring, and policy* for each topical area, and in general. Two important questions to ask are (1) What are they? [In other words, which standards, controls, monitoring, and policy apply to various situations?], and (2) What should they be? [In other words, how should current standards, controls, monitoring, and policy be changed to obtain more desirable conditions to protect human health and the environment?]

Standards. Standards by definition are *accepted measures of comparison for quantitative or qualitative value*.⁵ Environmental health standards are really **consensus standards**. That is, they result from collective opinion or general agreement and are really a compromise of conflicting opinions. These consensus standards are advocated by an organization (e.g., USEPA, ACGIH, WHO, country, or country group such as NATO) for health and economic reasons and reflect minimally acceptable performance. Salter¹² described standard setting as "mandated science" and she listed the common features of standards. Standards involve measurements, constitute points of comparison, are interconnected closely with economic activity, and reflect social values. She said our social values include values for trade, health, and the environment; they benefit individuals and organizations and are a product of negotiations. In addition, we believe another important characteristic is that standards are dynamic. That is, standards change over time. The reasons are because of (1) new knowledge and new technology, such as improved analytical methods, and (2) changing social values, such as greater concern for human health and protection of the environment.

It can be said that standards, and standard setting, has four major components. These components are scientific, economic, legal, and policy. For example, scientific aspects of environmental standards include basic science, toxicology, epidemiology, and modeling. The economic component includes ensuring that standards are not too stringent and that interest groups can make a profit. The legal component includes ability to prosecute those who violate standards. The policy component involves such questions as whether or not there should be

certain standards and what situations are covered by the standards. It should be obvious now that any assumption that standards are based only on scientific evidence is false. Some of the issues concerning standards, and standard setting, are science versus social values, scientific knowledge versus opinion, and whose standards versus which parameters. Similar to business where it is said, "BUYER BEWARE!", for those who use standards, "USER BE CAUTIOUS!". Standards might be outdated, or the situation might be inappropriate for the standards selected. It is important to ask our two basic questions: (1) What are the standards? and (2) What should they be (for a particular application)?

Controls. Control by definition is *authority or ability to regulate, direct, or influence*.⁵ In environmental health we use three categories of control, or control methods:

- Engineering controls,
- Administrative controls, and
- Personal protective equipment.

To control particular situations, these control methods should generally be used in the order presented. That is, one should routinely try first to apply engineering controls to achieve a quality environment or meet standards. An exception would be to administratively remove or eliminate potential contaminants. The second choice should be administrative controls such as reducing the work hours to limit total exposure. The last choice should be personal protective equipment because it is the most difficult to enforce.¹³ Examples of controls include the following:

- To prevent pollution
 - Substitute less harmful material,
 - Change or alter a process,
 - Use zoning to limit selected activities;
- Treat to remove specific contaminants; and
- Cleanup past contamination.

Monitoring. To monitor by definition is to check systematically or scrutinize for the purpose of collecting specified categories of data.⁵ The categories of environmental monitoring are *operational* and *health* although some people might add *regulatory* monitoring as a third category. There is often confusion about which type of monitoring has actually been done, and by whom. Basically, operational monitoring is that surveillance done by facility managers and operators to ensure that facilities and processes are operating within design expectations. It consists of walk-through surveys, sampling and analysis, and decision making --- all by operational personnel. The types of decisions include the following: equipment is working adequately, or operational adjustments need to be made, or a significant problem exists and health professionals and/or regulators need to be notified. Walk-through surveys and sampling and analysis are conducted frequently, such as each shift or each day; but only a few parameters are

analyzed.

On the other hand, health monitoring is that surveillance done by health professionals. It consists of *a sanitary survey, sampling and analysis, and interpretation* or decision making concerning the information and situation. One or more sanitary surveys should be conducted for each topical area on a periodic basis, such as initially, monthly, quarterly, or annually based on professional judgment. The purpose of a sanitary survey is to help anticipate, recognize, evaluate, and control environmental factors that might present an adverse health effect. Sampling and analysis are also conducted for the same purpose and on a similar periodic basis. Often, many more parameters are analyzed for than with operational monitoring, but on a much less frequent basis; and certified laboratories are used if at all possible. Monitoring is not complete until interpretation or decision making has occurred. Primary decisions include the following: the situation presents no significant threat (e.g., water is safe to drink), or specific actions need to occur to reduce risks of adverse health effects. The underlying principle is that health decisions are to be made by health professionals and not left to operational personnel by default. Health monitoring should be discussed for each topical area when presented, and decision choices should be more clear at that time.

Some issues for monitoring include the following:

- Operational monitoring versus health monitoring;
- Information gathering versus decision making; and
- Fact versus professional judgment.

Regulatory monitoring is really part operational and part health monitoring, but it is not completely either one. The regulator (e.g., EPA) requires that certain monitoring or sampling and analysis be conducted and reported on a specified basis. Health professionals should not be satisfied with results from only regulatory monitoring since it often does not give a complete picture.

Policy. A detailed explanation and discussion was presented in the *Materials and Methods* section.

Also, as part of the *Current Situation*, we identified both environmental and environmental health organizations and determine their organizational relationships within the Army and in relation to each other.

Organizational Relationships

We have identified Army organizations that have a specific environmental and/or environmental health mission or are performing activities that are associated with these areas. These also include many of the Army Staff, Major Commands (MACOM's) and other

organizations or activities described in Army Regulation (AR) 200-1, *Environmental Quality, Environmental Protection and Enhancement*. Appendix E lists the organizations and selected information (e.g., mission statements, governing regulations/directives, addresses, points-of-contact, etc.). Appendix F thus is a *Strategic Distribution List* of such organizations.

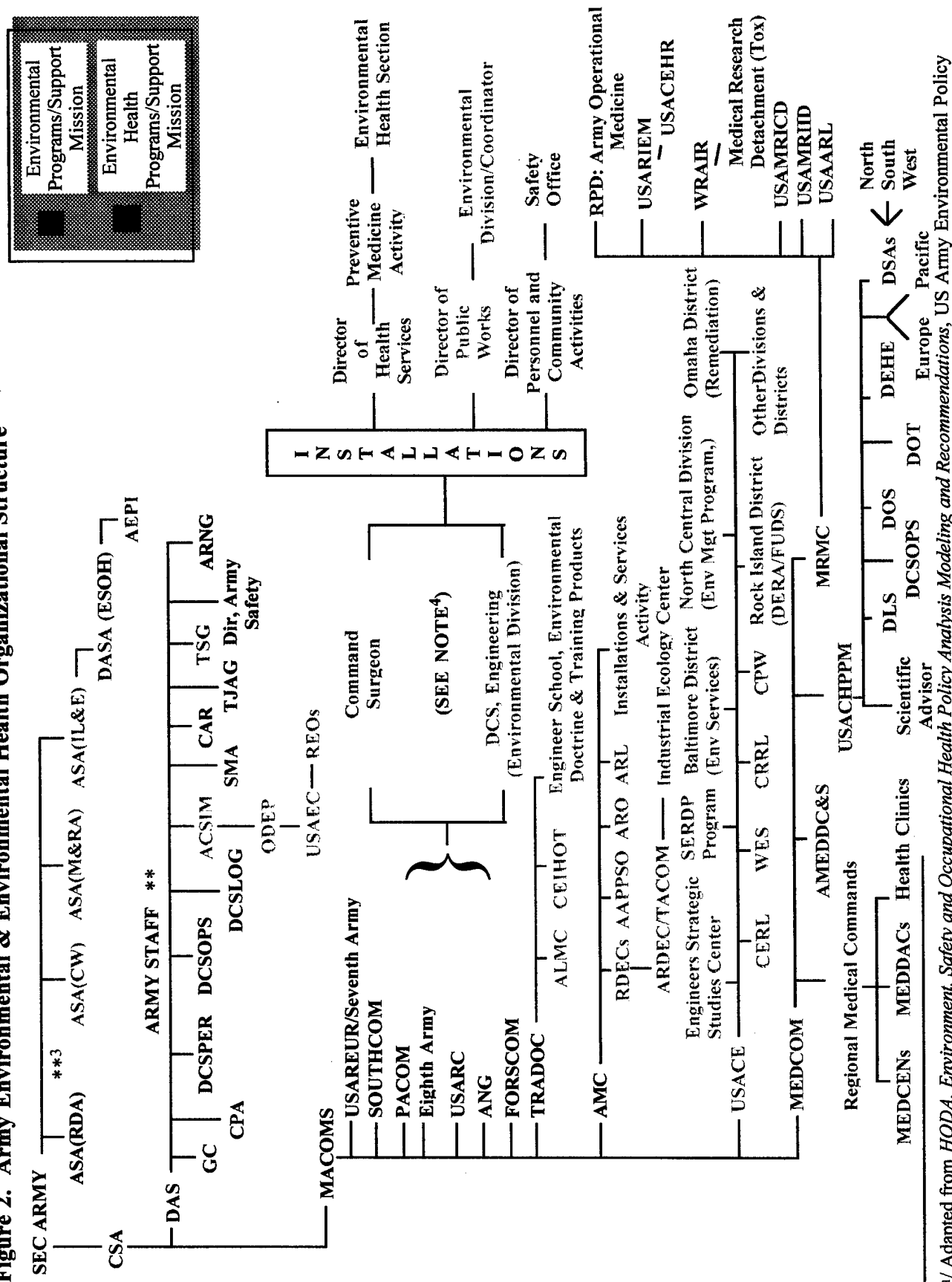
Figure 2 shows the organizational relationships among Army organizations that perform environmental and environmental health activities. It shows that both types of organizations are decentralized and both types of activities are conducted at various command levels throughout the Army.

Environmental health programs are diverse and found at many organizational levels throughout the Army. However, with the exception of the field (i.e., Table of Organization and Equipment, TO&E) units, most environmental health programs are within the MEDCOM (see Figure 2). In the Army, environmental health programs are identified as a component of the overall Preventive Medicine program and a responsibility of the AMEDD.¹⁴ At the Army Staff level the Office of the Surgeon General (OTSG) has staff authority for environmental health and the US Army Medical Command (MEDCOM) is the major command that implements the technical and applied aspects of environmental health. Through the command and control of the MEDCOM and in coordination with OTSG, the US Army Center for Health Promotion and Preventive Medicine (CHPPM) serves as the lead agent for technical aspects of environmental health and consultative services. At the installation level environmental health services are provided by a Preventive Medicine Activity (PMA), an organization within the local Health Clinic, Medical Department Activity (MEDDAC), or Medical Center (MEDCEN), which also are elements of the MEDCOM. The installation medical facility commander also may serve on the installation commander's staff as the Director of Health Services (DHS). The US Army Medical Research and Materiel Command (MRMC) is another MEDCOM organization that has an environmental health mission. As a part of its Military Operational Medicine Research Program, MRMC conducts basic (6.1) and exploratory development (6.2) research as the Army System Hazards Research Program. Environmental health research is conducted in areas that include biological effects of environmental factors and agents, e.g., toxic hazard assessment, water and sanitation, etc.

MACOM staffs usually have a Command Surgeon, or equivalent, who advise the commander on medical matters, to include environmental health issues. The Command Surgeons may provide technical guidance and supervision to installation surgeons (DHSs), but often the medical facility and organization is a tenant and a MEDCOM asset. The installation commander may be in the DHS's rating scheme and thus exert some indirect influence over the environmental health program. AR 200-1 requires MEDDAC/MEDCEN commanders to "advise on health aspects of the installation environmental program and provide technical consultation."

Environmental programs also are diverse and are decentralized. Different aspects of environmental programs are found at many organizational levels throughout the Army (see

Figure 2. Army Environmental & Environmental Health Organizational Structure 1.2



1/ Adapted from HQDA, *Environment, Safety and Occupational Health Policy Analysis Modeling and Recommendations*, US Army Environmental Policy Institute, Atlanta, GA. 1996.

2/ Generally excludes TO&E units, e.g., Preventive Medicine, Civil Affairs, etc.

3/ ** Based upon AR 200-1: *Environmental Quality, Environmental Protection and Enhancement*

4/ Names for these offices may vary by command

Figure 2). Environmental programs historically have been the responsibility of the engineering community led by the US Army Corps of Engineers. Currently, responsibilities for various aspects of environmental programs occur at the levels of the Army Secretariat (i.e., the Assistant Secretary of the Army for Installations, Logistics, and Environment [ASA(IL&E)] and Assistant Secretary of the Army for Manpower and Reserve Affairs [ASA(MRA)] with some delegation to the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health [DASA(ESOH)]) and the Army Staff (i.e., Assistant Chief of Staff for Installation Management [ACSIM] with some delegation to the Office of the Director of Environmental Programs [ODEP]). The Army Environmental Policy Institute (AEPI), under the direction of the DASA(ESOH), assists the Army Secretariat in the development of proactive environmental policies and strategies. The US Army Environmental Center (AEC), under the leadership of the ACSIM's ODEP, supports Army major command (MACOM) environmental staffs and various U.S. Army Corps of Engineers' (USACE) organizations by providing technical and consultative services, e.g., conducting site investigations, environmental sampling and testing, reviewing environmental requirements, etc.

The USACE is a MACOM comprised of several regional districts, divisions, and laboratories that conduct environmental restoration of installations and formerly used defense sites, provide environmental management services, performs research and development to include the areas of environmental quality and pollution prevention. Other MACOMs (e.g., the US Army Training and Doctrine Command [TRADOC], US Army Forces Command [FORSCOM], US Army Europe [USAREUR], etc.) typically have an environmental staff at the command level which monitors and provides policy and guidance to subordinate commands, activities, and installations concerning Army, Federal, and other environmental quality requirements for compliance, cleanup, pollution prevention, etc. Generally, on Army installations environmental programs are implemented and monitored by an Environmental Coordinator and/or staff assigned to the Directorate of Public Works, an installation staff office.

Both TRADOC and the US Army Materiel Command (AMC) have additional organizations involved with environmental activities. TRADOC, as part of its training mission, presents several environmental courses at the Army Logistics Management College (ALMC, Ft Lee, VA), the Center for Environmental Initiatives and Hands-On-Training (CEIHOT, Fort Sill, OK), and the U.S. Army Engineers School (Environmental Doctrine and Training Products, Fort Leonard Wood, MI). AMC leads a pollution prevention program in the materiel acquisition community through its Army Acquisition Pollution Prevention Support Office (AAPPSO) which also supports the Army Acquisition Executive (AAE) at the Secretariat level, i.e., Assistant Secretary of the Army Research, Development, and Acquisition (ASA(RDA)). AMC also leads several environmental research initiatives at the basic (6.1) and exploratory development (6.2) research levels. Such efforts can be found at the Army Research Office (ARO), Research Triangle Park, NC; the Army Research Laboratory (ARL), Adelphi, MD; and the Industrial Ecology Center (IEC), U.S. Army Armament Research, Development and Engineering Center (ARDEC), Picatinny Arsenal, NJ (part of the U.S. Army Tank, Automotive

and Armaments Command [TACOM]).

The existing relationship between environmental and environmental health programs can be explored by first reviewing selected Army Regulations (ARs) that address both areas and prescribe how they should interact. In its statement of general purpose, AR 200-1 specifically addresses the "threat to human health" (paragraph 1-1a(4)) as a reason for restoring contaminated sites.¹⁰ It also delineates a medical role in environmental protection and enhancement with the MEDCOM and CHPPM having the executing role (paragraph 1-18). This paragraph also alludes to a medical R&D role (paragraph 1-18b(9)) without specific reference to MRMC or specific lab(s) (this is in contrast to specific mention of CHPPM). It specifies that the AMEDD is to "Initiate the needed research in areas where AMEDD has responsibility", but does not elaborate or define the responsible areas. AR 200-2 (paragraph 1-4) also specifies a medical role in environmental actions by requiring the Surgeon General to be "responsible for environmental review related to the health and welfare aspects of proposed EISs [environmental impact statements] submitted to HQDA."¹⁵ AR 40-5 (paragraph 2-2) describes "Environmental Quality" as a "Preventive Medicine Functional Area" that "includes all AMEDD subprograms in support of the Army environmental program that has as its purpose the protection and preservation of environmental quality related to the health and welfare of DA [Department of the Army] personnel."¹⁴ AR 40-10 also specifies a medical role in environmental concerns as a specific objective of the Health Hazard Assessment (HHA) Program with the goal of reducing "the health hazards due to the potential environmental contamination associated with the use of Army systems."¹⁶

There are both formal and informal relationships and collaborations between the environmental and environmental health communities. At the Secretariat level the office of the DASA(ESOH) encompasses both environmental and health programs. Its health emphasis is that of occupational health, which we defined earlier as only one aspect of the broad field of environmental health. This office, however, is staffed with an Army Medical Service Corps Officer, either an Environmental Engineer (EE) or Environmental Science Officer (ESO), who integrates health concerns into environmental considerations beyond those of OH. Policy issues concerning environmental issues are addressed by AEPI, under the guidance of DASA(ESOH), but it does not have a corresponding environmental health policy institute or environmental health staff. However, AEPI has had AMEDD fellows assigned to do specific projects for Army Senior Service College credit and includes AMEDD representatives on work groups to develop its products.

The primary responsibility for environmental programs at the Army Staff level is a function of the ACSIM and the corresponding responsibility for environmental health matters is with The Surgeon General (TSG). ACSIM exercises environmental functions, except for civil works programs, through the Office of the Director of Environmental Programs (ODEP) and the US Army Environmental Center (AEC). TSG's Environmental Health Staff has the primary staff responsibility for establishing environmental health policies, standards, and practices.

CHPPM serves as the Army lead agent for many of these programs by providing technical expertise in the environmental health disciplines and by recommending policy to be staffed further by TSG. CHPPM supports AEC directly in the area of environmental cleanup and restoration actions at military installations by providing health risk assessments and reviews of proposed actions. In the past a Medical Service Corps Officer, ESO or EE, has been assigned informally to the AEC.

MACOM level environmental and environmental health interaction may occur by coordination between the Command Surgeon's office and staff Environmental Director's office. There may or may not be an environmental health person assigned to the Surgeon's office which seems to vary over time as a function of Army-wide AMEDD and EE/ESO personnel strengths. However, environmental health support can be requested by the MACOM directly from CHPPM. Both AMC and TRADOC environmental offices have had or currently have AMEDD officers assigned to their staff. It is not clear that these officers specifically address and assess health impacts from environmental actions (which would seem to be their primary role) or monitor/assess compliance?

The Army Environmental Center (AEC) is an example of a situation where currently there is a consistent and programmatic integration of health considerations into several environmental programs. The AEC, as a field operating agency of the Assistant Chief of Staff for Installation Management, is responsible for the design, execution, and management of a variety of environmental programs in support of the *Army's Environmental Strategy into the 21st Century*. The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), as a subordinate command of the U.S. Army Medical Command, is responsible for ensuring that environmental and occupational health considerations are adequately addressed in the execution of the environmental programs - institutional (fixed installations) and field (e.g., deployments). Working together in addressing the environmental and environmental health issues, the two organizations strive to protect the health of soldiers and the Army communities, and enhance environmental protection while enhancing the Army's readiness, modernization efforts, and quality of life. The roles and responsibilities of the two organizations are delineated in a number of Army documents, such as Army Regulation (AR) 200-1 and AR 40-5. The key staff members at the two organizations are quite familiar with each other's roles and responsibilities, either through personal working experience at both organizations or through longstanding close contacts between the organizations. The collocation of the two organizations at Edgewood, Maryland, provides the largest concentration of the environmental and environmental health staffs at a single location, in addition to further facilitating the close working relationship and effective coordination of environmental/environmental health actions.

The two organizations continue to work together, as they have done in the past, on a number of initiatives that require close cooperation between the environmental and environmental health communities. The following examples demonstrate the partnership between AEC (environmental responsibilities) and USACHPPM (environmental health responsibilities). As the Army's

proponent for the Installation Restoration Program (IRP), the AEC (as ACSIM's representative) is responsible for the program management, guidance, planning, oversight, and reporting. As the Army Surgeon General's representative, the USACHPPM is responsible for providing advice on human health and ecological aspects of the IRP. The USACHPPM staff prepare and approve human and ecological health risk assessments to determine requirements for and extent of IRP environmental mitigation in order to prevent adverse health impacts. The two organizations also work together closely in the Risk Communication process, by developing guidance for the Risk Advisory Boards (RABs) and/or by serving as RAB members. The cooperative effort between the two organizations on the continuously evolving and highly successful Environmental Compliance Assessment System (ECAS) Program is another excellent example of the benefits from the synergy between the environmental and environmental health programs. Another ongoing AEC/USACHPPM effort that critically requires total integration of the environmental and environmental health considerations and entities, is the Program to minimize adverse impact of firing weapons at the Army training areas on the environment, health of the soldiers and the surrounding communities, and the Army readiness. Lastly, membership on the Technology Teams of the Environmental Technology Technical Council (ETTC), will allow both organizations another forum of cooperation as they assist the environmental and environmental health communities, as well as the users, in identifying appropriate requirements under the Army's research, development, testing, and evaluation programs for the two communities.

The AMC Army Acquisition Pollution Prevention Support Office (AAPPSO) is another example of consistent and programmatic integration of health considerations into environmental programs.¹⁷ AAPPSO is chartered primarily through the auspices of AR 70-1, which requires the Commander, AMC to "...establish and maintain the Army Acquisition Pollution Prevention Support Office to support the Army Executive Agent for Acquisition Pollution Prevention efforts; provide direct environmental functional support to the Army Acquisition Community, and coordinate with ASA(ILE), Program Executive Office (PEO) and non-PEO programs..."¹⁸ To accomplish this mission, the office is *dual-hatted*: to capture all the major weapon system programs, the office wears the hat of the Assistant Secretary of the Army for Research, Development and Acquisition (SARDA-ZCS-E), and under the Commander of AMC for all non-major systems (AMCRDA-TE-E). They have additional taskings from the Army's Senior Acquisition Executive to "...provide the lead for [environmental] policy and guidance (1990); lead for PEO/PM [environmental] support (1992); lead for the elimination of Ozone Depleting Substances: Weapon Systems (1993) and Army Facilities (1994); lead for Executive Order (EO) 12856, subsection 3-303 (1994 - for the systematic elimination of extremely hazardous materials and toxic chemicals from all standardized documents, manufacturing processes and procurement practices); and Army lead to the Joint Logistic Commander's Joint Group for Acquisition Pollution Prevention (1996 - similar mission and function as for the Executive Order [EO] 12856, but working with the Defense Industrial Base as opposed to the Army Industrial Base). Medical and environmental health coordination for these programs is acquired directly from a CHPPM Liaison Officer who is detailed to the AMC Office and thus is tied directly into each of the missions, programs, and taskings cited above. This arrangement allows daily interaction to

facilitate an integration of environmental and environmental health issues.

On Army installations the environmental programs administered through the Directorate of Public Works (DPW) should be coordinated with the administrator of the environmental health program (usually within the Director of Health Service's [DHS] Preventive Medicine Activity [PMA]). The requirement for this relationship is established in both AR 200-1 and AR 40-5. However, the degree of interaction varies by installation and ranges from none through minimal to complete cooperation. In earlier years, initially the medical community (Preventive Medicine/Environmental Health) conducted some environmental activities. The installation may have had only one person assigned for this function or the installation environmental responsibilities may have been an additional duty. As regulations matured and liabilities increased, installations hired and enhanced environmental staffs and program execution shifted from the medical to the installation environmental community.

Participants in the *First and Second Work Group Meetings* identified several specific aspects of Army environmental and environmental health programs based upon questions that were formulated to promote discussion about the study. These questions and *Work Group* comments / observations about the *Current Situation* are shown in **Table 2**. Additional comments / observations were offered by participants at the *General Meeting* (**Table 3**).

The *Work Group* and *General Meeting* reviews led to the development of additional information concerning organizations that are external to the Army and stakeholders.

Organizations External to the Army. There are several DOD/Joint Service level organizations that should be mentioned because of their relationship or influence on Army environmental and/or environmental health programs (see **Figure 3**). These are organizations that perform services in support of the US Army (also the other military services) and/or do not have a corresponding Army-level Agency. The organizations include the: Office of the Assistant Secretary of Defense for Health Affairs; Office of the Deputy Under Secretary of Defense for Environmental Security (DUSD-ES); Defense Logistics Agency (DLA), Defense Supply Center (Hazardous Material Information System and Hazardous Technical Information Services); Joint Group on Acquisition Pollution Prevention (JG-APP) and the Joint Pollution Prevention Advisory Board (JPPAB); Armed Forces Medical Intelligence Center (AFMIC); Uniformed Services University of the Health Sciences (USUHS); and Office of the Deputy Assistant Secretary of Defense for Peacekeeping and Humanitarian Assistance. Another organization that is not part of DOD or any of its services, but does provide external review, advice concerning Environmental Health and Preventive Medicine, and develops military specific environmental health exposure criteria is the National Research Council Committee on Toxicology (COT). Descriptions of these organizations including their mission, purpose, and/or vision are in **Appendix E**.

Stakeholders. The Presidential / Congressional Commission on Risk Assessment and

TABLE 2. Work Group Focus on the Current Situation

Discussion Questions for Environmental Health Model Policy Study (Not intended to be all inclusive)

- Where are we now? And Where are we headed (if we continue with current organizations, resources, policies, etc.)?
- Who are the stakeholders; and what are their attitudes, concerns, perceptions, and behavior?
- What is the organization and major components (organizations)?
- What are the relationships?
- What are the available resources?
- What paradigm(s) are we working from?

Work Group Comments/Observations

- Should consider national environmental situation. Look at external (to DA) organizations, e.g., DOD and public (EPA, PHS, etc.)
- More of a continuum between environmental health, occupational health, and ecology
- Effects of privatization
- "Purple"
- States' Roles
- Dichotomy Growing:
Environmental Engineers who traditionally do the environmental work vs. Environmental/Public Health Profession
- Address interplays between Ecology/Human Health/Mission/Economy
- Who is approved to speak for the "Surgeon?" At what level? To whom?
- Less cross-assignments, e.g., MSCs to non-medical offices/assignments
- Compliance - priority driver
- P2 not factoring in health; or at least not much at all
- Valuing Health - return on investment
- Stakeholders:
 - Definition should indicate the wide range of stakeholder types
 - Show selected examples and explain why they are stakeholders
 - High Priority Stakeholders:

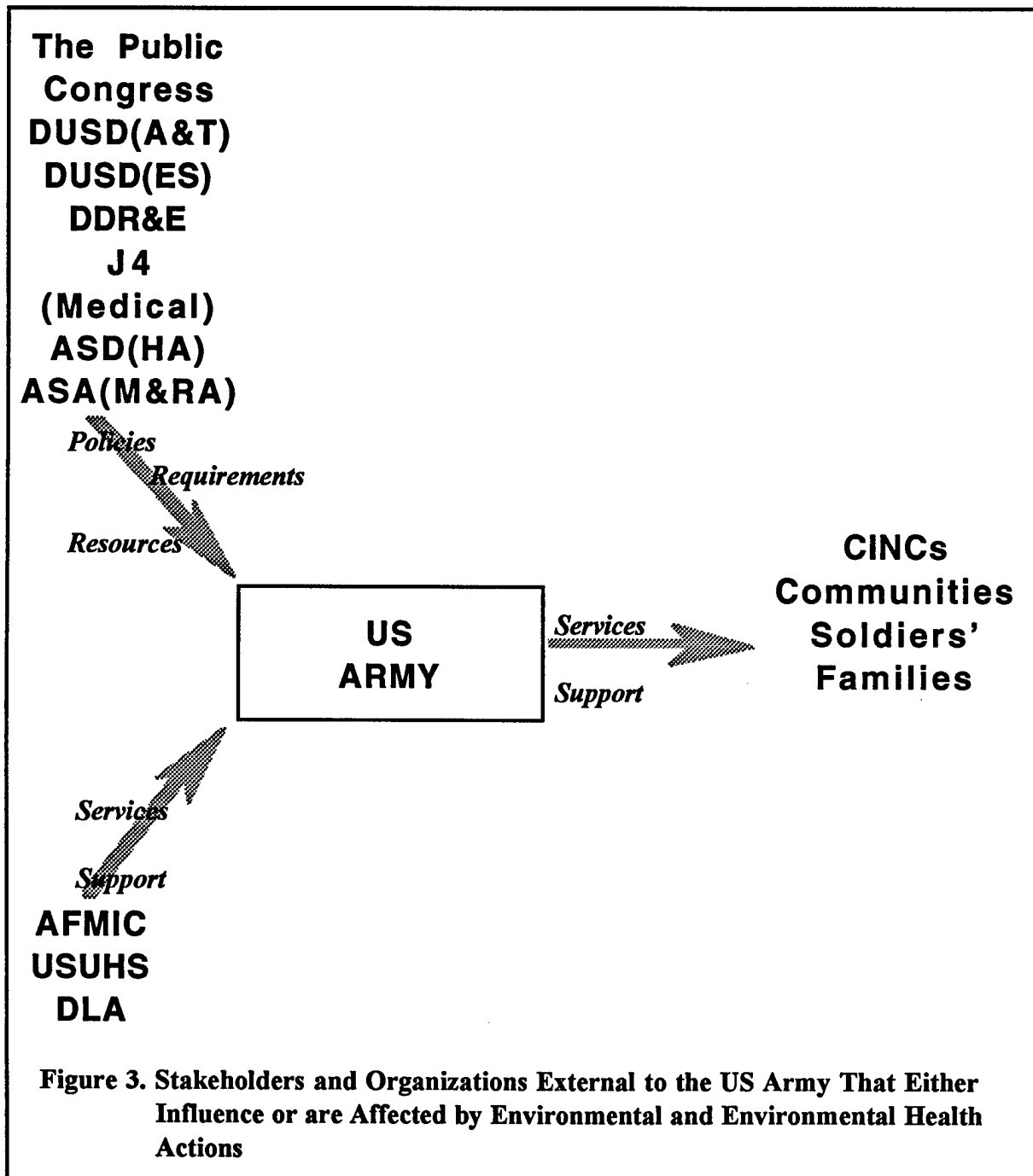
- DUSD(ES)	- SALE(ESOH)	- ARSTAF - Surgeon
- DDR&E	- Materiel Developers	- Other Services (interaction)
- Combatant CINCS	- Other Federal Agencies	- Soldier & Families
- Installation Commander	- Foreign Populations	- International Agencies
- Acceptance of Risk Assessment as critical to environmental decision making
- Tendency towards junior staffing and single issue programs (health) weakens ability to aid environmental management. Need to analyze statistics.
- Examples of "Improvement Opportunities and Weaknesses are not collected for use
- Perception that inherently protects health adequately
- Inadequate looking at future situation
 - Environmental programs using ISO 14000; How would environmental health address this?; Fit it into environmental health approach model
 - Environmental program, as currently defined, probably "owns" environmental health
 - Medical Community provides health input into environmental programs
 - History of evolving role of health in DA environmental activity

Relationships:

- Ref: Draft "Problem Definition and Needs Assessment", pg. 11, 2d para, 1st sentence, is a good definition
- Legal Counsel
- DOD Connections
- Congress
- Bureaucratic Chain-of-Command process is inhibitor (i.e., having to go up and down the chain). Consider pre-negotiated process to alleviate. Allow more horizontal relationships.
- Requesters should combine health with environmental work request
- People think of CHPPM for health (especially programs in water, wastewater, hazardous waste), but forget that AEC has a relationship. AEC has other expertise. There is some overlap. Clients go to one or another rather than a having a holistic view
- Enhance relationship formally, e.g., MOU
- PMs (major) check potentials to enhance CHPPM relationships
- P2 is opportunity for medical R&D to fill data gaps or generate new information on esoteric new materials and phenomenon in anticipation of potential health concerns

TABLE 3. General Meeting Comments on the Current Situation

- Update AR 40-5
- Establish roles and responsibilities
- DCSPER - Soldier Welfare
- AR 200-1 limits role of Surgeon General
- Integration should occur at the DA level
- Need mechanism to bring resources to bear
- Need systems development integration
- "Commanders the Key"
- Culture
- Team approach
- Impact on resources
- Environmental health baseline
 - Need to measure
- Investment Strategy
- Proponent
 - HA-ES
 - J4 (Medical)
- Navy -- Similar
- Patient Care vs. Preventive competition and resource allocation. Clinical in charge.
- Environmental Health not prominent in executives' OER measures
- Seems environment Health and Environmental Management Competing--must complement
- Lack of metrics for prevention ROI
- CHPPM grew -- moved to heavily reimbursable
- No current AEC, CHPPM MOU. Some discussion underway
- Change chart of organizations to say is chart of environmental accountability. Specify what each organization brings to table.
- Need real examples of need
- TI/Raytheon: combined functions to achieve cost reductions
- Regulators returning risk assessments for better health content (check CTT/NDCEE + PMCD - B. Pringle to see if can cite specifics)
- Not clear: who should pay for Environmental Health Research and Development for use in Environmental Management programs?
- Environmental Health Research and Development is isolated from Environmental Research and Development in the U.S. Army
- Environmental Health Research and Development is not considered consistently in RDT&E programs
- Medical side feels the environmental side has the power, money, etc.
- Compartmentalization of roles
- Preventive Medicine seen by medical structure as cost
- Fewer people in Preventive Medicine; many junior personnel; 30% loss in personnel without equivalent reduction in mission; limited technical capabilities at installation level
- Contracting pros and cons
- Environmental programs are regulation driven
- Privatization
- Think "out of the box"
- Dichotomy at Secretariat level
- Engineers vs. Scientists
- Marketing/education/training of who does what (policy or lack thereof)
- Responsibility vs authority (up through DA level) - medical is advisory
- EQCC (AR 200-1, section 15-11)
- More formal IPTs and PATs
- Definition and scope of term "environment"
- Environmental | Preventive Medicine -----> CHPPM



Risk Management defines Stakeholders, with reference to the risk assessment/management process, as *parties who are affected by the risk management problem or who have a 'stake' in a risk management situation*.¹⁹ This definition can be generalized for the purpose of this study as *parties who are affected by or who have a 'stake' in environmental and environmental health issues*. The commission's report also recognizes that different groups of stakeholders have different perceptions and concerns. The report also indicates that asking the following types of

questions (modified for this study) may help to identify potential stakeholders:

- Who might be affected by environmental/environmental health decisions?
- Who has information and expertise that might be helpful?
- Who has been involved in similar situations before?
- Who has expressed interest in being involved in similar decisions before?
- Who might be reasonably angered if not included?

The range and types of stakeholders can vary as a function of several parameters, e.g., nature of operation/activity, the impact (actual or perceived; health or other), the type of organization conducting an operation or activity, political climate, social and economic situations, geographic location, and others. This study recognizes that there are numerous stakeholders who either influence or are affected by Army environmental health science and specifically by the role of environmental health R&D. Many of the organizations listed in Appendix D are stakeholders within the Army and DOD. However, there are also stakeholders who are outside of the Army and DOD. Examples of these, also based on the Presidential/Congressional report, include: communities and community groups that are around and near military installations, families of military members, representatives of different geographic regions, representatives of different cultural, economic, or ethnic groups, local governments, public health agencies, businesses, labor unions, environmental advocacy organizations, consumer rights organizations, religious groups, educational and research institutions, state and federal regulatory agencies, and trade associations.

Examples of high priority stakeholders to the Army and selected reasons that they are stakeholders include the following:

- Establishes environmental or environmental health policy that the Army must follow, e.g., DUSD(ES), SAILE(ESOH) ARSTAF (TSG, ACSIM), DDR&E;
- Implements environmental or environmental health program, e.g., Materiel Developers, Combatant CINCS, Installation Commanders; and
- Affected by the way Army environmental or environmental health programs and policies are implemented. e.g., Other Services (interaction), Other Federal Agencies, Soldier & Families, Foreign Populations & International Agencies.

Trends. There are a number of trends that affect the climate in which we work. Base closures, reduced resources and downsizing initiatives have been dictated by Congress. Reduced numbers of federal employees have resulted in privatization of some military support functions (e.g., operation of water treatment plants). Reduced numbers of Army environmental health personnel have resulted in loss of some positions which supported environmental programs. Within the United States, the State's role in compliance with environmental laws and regulations has increased and compliance in general seems to drive the military's reaction to environmental laws rather than negotiating based upon specific health impact. OCONUS, there has been an increase in Joint and Allied operations and Operations Other Than War (OOTW); and with

reduced resources, this trend is expected to continue. There is a trend (need) to employ teams of environmental health professionals (rather than only individuals) due to the complexity of many situations.

Development of a Problem Statement and Recognition of Opportunities for Improvement

The term *Problem Statement* usually is applied at this phase of the study as depicted in the *Environmental Health Policy Study Model*. It should be noted that the purpose of this statement is to highlight areas that should be addressed and considered when developing a vision. However, *the Problem Statement is not a single entity that should be reviewed and considered alone*. The *Problem Statement* must be read and understood in relationship to the *Current Situation* which reflects events as they presently exist without casting judgment, positive or negative.

These findings should not convey the idea that all relationships between the environmental and environmental health communities are disparaging. To the contrary, there are several situations that are thriving healthy relationships that should be highlighted and studied as models for improving the situation throughout the rest of the Army. These were noted in the discussion of the *Current Situation* and include the relationship between AEC and CHPPM, previous assignments of Medical Service Corps Officers to AEC, assignments of Medical Service Corps Officers to MACOM Environmental Offices (AMC, TRADOC) and to the Secretariat (DASA(ESOH)), and the CHPPM Liaison Officer assigned to AAPPSO. Because of these situations, *Work Group* and *General Meeting* reviewers concluded that the phrase *Problem Statement* in this case does not accurately reflect the current state of affairs and suggested that the phrase *Opportunities for Improvement* was more accurate.

However, there are certain situations that either explicitly or potentially limit the relationship between the environmental health and environmental communities. These can be depicted as circumstances to be reflected in a *Problem Statement* or identified as *Opportunities for Improvement*. Examples are discussed in the following paragraphs.

Given noted exceptions (e.g., AAPPSO, AEC, DASA(ESOH), etc., which may be models of how things should work), we suspect that generally the interaction between Army environmental and environmental health communities is selective, perhaps sporadic, and in some cases not adequate to address health issues in environmental programs in a consistent manner. There does not seem to be a systematic and programmatic integration of the two areas. However, it appears that this situation is not unique to the Army and exists also on a national level. Burke et al.²⁰(also citing reports by the Institute of Medicine²¹ and the Environmental Protection Agency²²) address this issue noting that at both the federal and state levels there are two situations that affect the relationship between health and environmental concerns. These are “‘fragmentation’ of environmental responsibilities” and “lack of coordination, and inadequate

attention to the public health dimensions of environmental issues.” **Figure 2 and Appendix E** begin to show a similar trend in the Army; there are numerous organizations at various levels that are performing environmental missions and activities. An initial review of mission, purpose, and/or vision statements for most of these environmental organizations does not demonstrate a focus on health. Thus for many organizations there appears little, if any, programmatic interaction with the medical community even though there are regulations that require a formal relationship.

One reason for the disparity between the environmental health and environmental programs may be related to the definitions. We contend that there is not a consistent definition for *Environmental Health* which allows one to relate the discipline to Army environmental programs. We have provided an extensive definition for Environmental Health to allow us to identify organizations that are involved in either environmental or environmental health programs. It appears that in the Army, the broad spectrum of Environmental Health may be identified and defined only by the medical community. Outside of the medical community two titles (either as functional descriptions or organizational names) that encompass health have come to our attention: *Environment, Health, and Safety (EH&S or EHS)* and *Environment, Safety, and Occupational Health (ESOH)*. Generally, the health component of these descriptions refer to *Occupational Health* and may narrow the medical role to this issue. Occasionally, one may encounter the phrase “health aspects of the environment” which may be a euphemism for environmental health. Our broad definition includes Occupational Health as one component of the vast area of Environmental Health. Perhaps including the term Environmental Health in these titles will help promote interaction between the environmental and medical communities. In 1995 Gordon¹¹, in a keynote presentation to the California Environmental Health Association, discussed use of the term *Environmental Health and Protection* as a means of bridging the relationship between environmental and health concerns. He also indicates that this term is appropriate because both *environmental protection* and *environmental health* efforts have the same public health goals.

Basic (6.1) and exploratory development (6.2) research in the environmental sciences are conducted by several non-medical organizations throughout the Army. Some of these efforts address issues of “toxicity”, “health”, “safe cleanup levels”, etc.^{23, 24}, which seem to imply an environmental health Research and Development (R&D) role. Thus, it appears that there may be a lack of distinction (or understanding) between environmental and environmental health R&D.

Participants in the *First and Second Work Group Meetings* identified several specific aspects of Army environmental and environmental health programs based upon questions that were formulated to promote discussion about the study. These questions and group comments/observations about the *Problem Statement* are shown in **Table 4**. Additional comments / observations that were offered by participants at the *General Meeting* also are in **Table 4**.

TABLE 4. Focus on the Problem Statement

Discussion Questions for Environmental Health Model Policy Study (Not intended to be all inclusive)

- What are the problems? symptoms of problems? and root problem(s)?

Work Group Comments/Observations

- Money missing - a root cause
- "Must-fund" policy flawed
- Compliance drives resourcing
- Strike "clearly" in first sentence
- Difficult to support environmental health problems
- Define "Environment"; Use definition in *Army Environmental Strategy*
- Consider statement of "Opportunities for Improvement"
- Policy?
- Avoid or explain the term *integration*; not organization merging

Root Causes:

- Chronic nature of environmental health
- Military culture: stovepipe - competition among services, organizations, people, etc.
- criteria for "real-world" missing
- Definition problem
- Response time

General Meeting Comments/Observations

- Integration of EH
- Recognition of problem
- Reconsider whether broken or opportunities exist to improve effectiveness
- Re-validate App D mission/roles (Many are obsolete)
- Portray truly current missions and roles (key requirement - prior to any discussion of how to bring environmental health and environmental management together)
- Even if current need not proved, do not forget to look at future, evolving needs: e.g., increasing call for complex judgments for restoration, non-stockpile chemical weapons, etc.
- Problem statement very much needs to be re-thought and re-worded to be less inflammatory. Stress opportunities

Given such conditions, the following *Problem Statement* is offered:

The need and authority to have full cooperation between environmental programs and environmental health programs, as currently structured in the US Army, is established in both medical and environmental regulations. There are situations throughout the Army where, because there is active interaction between the environmental and environmental health communities, resulting environmental actions protect human health and the natural environment by technologically and fiscally efficient means. However, such interaction and cooperation between the two communities does not permeate the Army organizational structure. It is variable, often limited, and in some cases does not exist. Thus, environmental efforts may be undertaken without health/medical input which can lead to environmental decisions and actions that are: not health-based; may be technologically and economically excessive; or may not eliminate or mitigate a

health threat to an acceptable level. Environmental personnel often are not aware of the health role for environmental programs. Environmental health personnel often are not aware of the environmental functions of all organizations. Even medical personnel are not always aware of environmental health functions (i.e., setting standards, implementing controls, monitoring, and policy). These deficits in awareness are complicated further by the lack of a comprehensive Environmental Health definition which allows one to relate it to Army environmental programs. Fragmentation of Environmental Health topics and responsibilities have allowed work to go undone. Because of such deficiencies there is not a comprehensive, systematic, continuous effort to develop environmental health standards and policies that are appropriate for military concerns. This, in turn, limits programmed research and development that should provide the data and technology base to support the environmental health functions. The underlying root problem is that, in practice, health considerations are not an integral part of environmental programs because both are perceived as separate and distinct from each other and are not represented equally at various organizational levels throughout the Army.

Establishment of a Vision and a Vision Statement

We modeled our approach to establishing a vision according to principles identified by Collins and Porras²⁵ which bases an *Envisioned Future* upon a *Core Purpose (Mission)*, *Core Values*, *Potential*, and *Opportunities*. During the *First and Second Work Group Meetings* specific questions about the *Vision* were discussed. These and group comments / observations about the *Vision and Vision Statement* are shown in Table 5. Initial concerns about aspects of a vision were identified in the *First Work Group Meeting*⁴ and summarized as follows:

A vision statement should reflect the analysis of the current situation and the identification and statement of the problem. Our group began with a vision that the effects of Army environmental actions, plans, and decisions would consistently reflect the impact on human health. We recognized clearly that, although this seems restricted to the Army, the Army always operates within the context of DOD and broader circles. Just imagine that the chart of organizations and relationships for the Army has a lot of dotted lines going off the chart to DOD, other federal agencies, and other non federal organizations. In the few minutes that we discussed this vision, the Army situations used as examples ranged from the installation level, through deployment in small scale contingency operations (SSCO) to support of DOD-Dept. of State international environmental security initiatives.

As we discussed the first question, Where do we want to go?, we listed

TABLE 5. First Work Group Focus on the Vision

Discussion Questions for Environmental Health Model Policy Study (Not intended to be all inclusive)

- Where do we want to go? (Describe our shared vision.)
- What are our core values? Core purpose (goal)?
- What is our potential?
- What opportunities will we seek?
- What are our objectives?

Work Group Comments/Observations

Where do we want to go?

- Not lose ground - Don't harm what good we have
- Culture shift in core values (people make decisions based upon their own values)
- Identify overlaps to allow groups to interact/overlap
- Health has to have Real-time decision support
- No improvement in public health due to DA actions/operations
- Have DOD wide program/policy not just an Army one.
- Chem-Demil emphasis in environmental and environmental health
- Environmental health and protection - one concept with public health as single goal (page 12 of draft *Problem Definition and Needs Assessment* Report with reference to Gordon citation)
- Environment - environmental health, one entity?
- Ideal environmental and environmental health partner relationships:
 - instant access to both communities acting as one community
 - one-stop shopping
 - empowered to act sideways, not just up and down a chain
 - environmental staff trained in public health
 - environmental health staff trained in environmental
 - commitment
 - equity - equal partnerships

Core Values:

- *Environmental Side:* "Environmental Stewardship
- *Mission Side:* "Accomplish the Mission", which includes not destroying all in path
- *Medical Side:* "Do no Harm" or "Do Some Good"
- Changing to reflect DA mission changes
- Environmental health/medical values should be equivalent to (or should relate to) environmental program values
- Public wants casualty free military operations
- Army value of compassion; concern for quality of life of stakeholders
- Personal vs organizational values
- AMEDD - conserve the fighting strength
- What are the core values of key stakeholders? Ask them.

Our (DA) Potential

- Can we protect human health? To what degree?
- How to measure?
 - Do we have baseline now? Metrics?
- Sufficient information for operational risk management
- Confidence of Soldier, Commander, and Public (i.e., Stakeholders)
- Response to CONUS NBC-e event (environmental and environment health)
- Problem that restricts us from reaching our potential. Great variance in individual capabilities in PM & environmental

characteristics of a conceptual end-state. Our first caveat is that we don't want to lose or destroy the good things we now have in the relationship of environmental health in Army environmental programs. Our second caveat is that while we are focusing on Army policies, we must make our product

integratable into DOD-wide policies/efforts. In our end-state, environmental health should provide real-time decision support for environmental plans, actions, and decisions. The decision support should be in terms and language that the decision maker can understand and use. If that is reduced to cost, schedule and performance, then those are the terms in which environmental health needs to be couched. In our future state, there should be no increase in public health risks due to Army actions/operations. Perhaps we should go even further and characterize our future state as one in which risks to public health are actually reduced by the integration of environmental health and environmental programs.

One key to success in our future state is the overlapping or merging of core values. Values are probably the principal basis for decisions. Those core values in each of us are both personal and organizational. Some are fundamental to our culture and others are imposed on us by our stakeholders. For example, the public expects deployments to be free of casualties, both from disease and non-battle injury, as well as battle injury. We recognized that there is a cultural shift that occurs over time in our core values. If we are to move successfully to the future state we envisioned, then we must recognize these values, identify where they overlap, and nurture the cultural shift in values to provide more overlap and commonality between the environmental health professionals and the environmental professionals.

Environmental health and environmental protection should be integrated in ways that support real-time decisions. Often environmental actions have defined schedules and performance criteria. This is characteristic of the gamut of environmental actions from CONUS installation compliance and restoration programs to OCONUS deployments in small scale contingency operations. If environmental health input into environmental actions and decisions is not timely, then the health input is of no value to the decision maker. The consequences of that could include investments in environmental actions which have little or no impact on improving public health or reducing risks, or which could even increase some risks to public health.

We discussed a future state in which environmental health and environmental protection become really one concept with public health, not just military public health, as a single goal. Reference was made to the Gordon citation on page 12 of the draft Problem Definition and Needs Assessment Report. The concept of environment and environmental health becoming one entity (whatever that means) should be considered further.

That does not necessarily mean creating some new organization or merging environmental and environmental health organizations into some consolidated organization.

We discussed a growing emphasis on chem demil and NBC-e type of environmental actions. These are areas where environmental health and environmental professionals, if they work closely together, can potentially have a significant impact on public health.

If an improved partnership between environmental and environmental health professionals and programs is to be part of the future state, then what characteristics would describe such a partnership? Our list of characteristics included instant access to each professions; one-stop shopping; empowerment by the chains of command to work and act horizontally, without excessive 'up and down the chain' bureaucracy; commitment by both professions to the same integrated concept focused on protecting public health; and equity in roles, responsibilities and other partnership functions. The final characteristic we discussed was to have environmental professionals who are trained and knowledgeable in public health, and to have environmental health professionals who are trained and knowledgeable in the environmental protection profession. There was no discussion of the details of the extent and nature of the cross-training and cross-knowledge. However, common values, common goals, awareness and knowledge were central themes in discussing the ideal partnership between the two functional areas.

Our discussion moved on to Core Values. As we discussed earlier, values are an important basis for making decisions. For effective movement toward the envisioned future state, we discussed the need to identify and understand the core values, both personal and corporate, of stakeholders and decision makers in environmental protection and in environmental health programs. We identified 'environmental stewardship' as a primary core value for environmental professionals. We used the Hippocratic Oath concept of 'do no harm' as a primary core value for environmental health professionals. One member of the group suggested that 'do some good' would not be so negative and would imply initiative. In between these two professions lies the execution of the Army mission. The concept of 'accomplish the mission' is a primary core value of the Army. That mission execution concept includes both the values of 'environmental stewardship' and 'do no harm'.

The characteristics of the mission execution primary core value for the

Army is changing to reflect changes in Army missions, especially in the direction of SSCO. In our future state the core values of the environmental health profession and the environmental protection profession should closely inter-relate, if not be equivalent. Some other corporate values being imposed on us include the expectation of the public (and consequently, Congress) for casualty-free deployments. The Army has identified seven core corporate values, one of which is respect. That Army core value is defined to mean the regard and recognition of the absolute dignity that every human being possesses and incorporates diversity and compassion. That clearly overlaps in both the environmental and environmental health professions in the Army. Integrity is another of the seven Army core values that clearly exists as a core value in both professions. We recognized that there are two types of values, personal and corporate, which drive decisions. The motto of the Army Medical Department is 'To conserve the fighting strength' and, consequently, is a core value of the environmental health profession in the Army. What is missing from our discussion is the core values of the stakeholders in our two professions. Those stakeholders need to be clearly identified and asked about their core values.

The final part of our discussion centered around Our (DA) Potential. We began with several questions. Can we protect human health? To what degree? To answer those questions we need to be able to measure changes in public health or in risk. How do we measure? We have the potential to develop metrics, measurement tools, baseline databases, etc., that can provide concrete demonstration of changes and risks to public health which we can integrate into environmental decisions, actions. We have the potential to provide sufficient information for operational risk management. This information must be provided in near-real time, must be in the language and format of the operational risk management decision maker, and must be 'real world'. We have the potential to gain the confidence of soldiers, commanders, and the public (three key stakeholders in Army environmental actions) in our dedication and ability to protect public health in environmental decisions and actions. Much of that confidence has been lost and will be difficult to regain. We have the potential to provide real-time environmental and environmental health support in response to CONUS NBC-e events. Response activities may include containment, cleanup, health risk estimation, monitoring, modeling, and simulations. One of the principal challenges in the path of reaching our potential is the great variance in the individual knowledge, skills, experience, and abilities of environmental and environmental health professionals.

Participants at the General Meeting also provided comments / observations about the

Table 6. General Meeting Comments / Observations Concerning a Vision

- Timeframe: 5 - 10 years
- CONUS - Instruction / Training
- OCONUS - Instruction / Training
- OCONUS - Deployments / MRC / SASO
- DOD / State / International Environmental Security to integrate environmental and health programs for protecting health, the environment, and sustaining military readiness
- The Army will integrate environmental values into its mission to sustain readiness, improve soldiers QOL, strengthen community relationships and provide sound stewardship of natural/cultural resources.
- Notes: 1. Use as a concept; 2. Possibly use US Army Environmental Vision Statement as a model

In analyzing the current situation, developing a problem statement, establishing a vision, and planning a strategy to achieve that vision, it may be useful to subdivide Army operations into four general categories, each of which has a unique combination of environmental and environmental health programs.

A. CONUS - Installation/training operations. Primarily a MACOM responsibility. Environmental programs are very developed and mature in compliance and restoration. Pollution prevention is maturing rapidly. Conservation is an active part of the Army Environmental Program. National and state standards are extensive and well-developed. Regulatory agencies clearly established and their roles with respect to DOD/DA fairly clear. Area in which environmental health is most integrated with environmental programs. Greatest integration is in compliance and restoration, less so for pollution prevention, and almost non-existent for conservation. Stakeholders, decision makers, available resources, standards & criteria, relationships, etc. are different in this Army operational category from the other three categories.

B. OCONUS - Installation/training operations. Primarily the responsibility of Army component commands of the unified combatant commands, like EUCOM, US Forces, Korea, and USPACOM. Environmental programs are not as mature and developed compared to CONUS installation/training operations. Wide variety of applicable standards and criteria. Compliance and restoration relatively new OCONUS environmental program elements compared to CONUS. Relationships include host nations, multi-national forces, coalition forces, NATO, other treaty organizations, etc. Stakeholders, decision makers, available resources, etc., are different from CONUS operations. Even within CONUS operations, any CONUS deployment for disaster relief or other type of small scale contingency operation by Army personnel is a very

different situation for environmental health and environmental professionals.

C. OCONUS - Deployments (Theater Warfare or Small Scale Contingency Operations). Primarily the responsibility of the deployment commander. How the Army carries out its environmental and environmental health responsibilities in deployments differs substantially from installation/training operations. Each type of deployment is unique. All of our deployments since 1991 ODS/DS have been small scale contingency operations in which disease and non-battle injury are the major source of casualties. All those deployments have been joint and have involved host nations, international bodies, and usually allied military forces. In planning and conducting these SSCOs, CINCs have had to consider environmental consequences and environmental health impacts. Army environmental and environmental health activities in OCONUS deployments are much less mature and developed, criteria and standards are much fewer and more confusing to use, and the equivalent of regulatory organizations almost non-existent. The stakeholders, decision makers, available resources, criteria, standards, etc. are all very different from the previous two categories of Army operations.

D. OCONUS - Dept. of State/DOD International Environmental Security Initiatives. These types of activities have only just begun. Army environmental and environmental health professionals can expect to be tasked with supporting more such missions in the future as DOD continues to grow in its understanding and support of the Preventive Defense strategy articulated by former SECDEF Perry and continued by SECDEF Cohen. Stakeholders, decision makers, available resources, criteria & standards, etc., are the least defined, understood, developed of all the four types of Army operations. The inter-agency and international makeup of all these types of activities really complicate the interaction of environmental and environmental health.

Supporting all four types of Army operations are the concepts of systems development, life-cycle management, public health, materiel acquisition, RDT&E ,etc. The organizations in the Army responsible for these 'umbrella' concepts must be identified, their inter-relationships clarified, and their core values, as stakeholders, understood.

Additional vision considerations were discussed at the *Second Work Group Meeting* which was focused on the parameters identified by Collins and Porras²⁵ as exemplified in Table 7. Implications of the core value of "independent professional judgment" are:

Table 7 Vision Parameters*

Core Purpose (Mission)

- To anticipate, recognize, evaluate and control environmental factors which can cause adverse human health effects and performance decrements.

Core Values

- Protection of human health
- Scientific base for information and decision making
- Independent professional judgment

Potential

- Maintain clear communications
- Conduct fully integrated environmental/ health programs
- Measure changes in public health and risk
- Provide sufficient, timely information for risk management
- Gain the confidence of soldiers, commanders, and the public

Opportunities

- Provide one-stop shopping
- Provide decision support in terms and language that the decision maker can understand and use
- Increase environmental health emphasis on acquisition, chem demil and NBC-e types of environmental programs, as well as Small Scale Contingency Operations (SSCO) and DoD/ Dept of State International Environmental Initiatives

Envisioned Future (Shared Vision)

- We will develop and position environmental health resources and apply science, technology, and professional judgment to proactively assess environmental health risks and present solutions/ options for real-time decision making in the Army, Joint/ Allied operations, and Operations Other Than War (OOTW) so that the effects of Army environmental plans, decisions, and actions will consistently reflect the impact on human health.

* Adapted from Collins and Porras

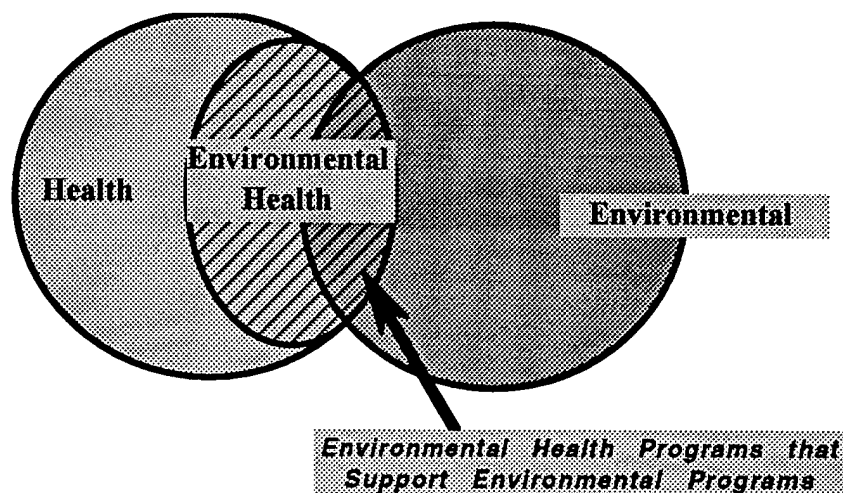
- (1) environmental health personnel must be free to make decisions (recommendations) through medical authority, and
- (2) environmental health is part of public health (preventive medicine in the Army).

Therefore, the main purpose of assigning or associating environmental health personnel to non-medical organizations and staffs should be to liaise and coordinate environmental health services including research and development. Hence, these personnel (and others) must understand the process and be able to recognize opportunities to get medical research and development involved.

Other points identified and discussed by the Work Group about a specific vision and statement relative to this study are listed in **Table 8**. It was determined that while it should interact with environmental programs, environmental health encompasses more than the topical areas typically addressed by military environmental programs. This is illustrated by the following diagram (not to scale):

TABLE 8. Second Work Group Focus on the Vision

- One sentence
- Look at DA environmental vision. Is environmental health included? Should be there.
- Environmental health as a partner with or as a subset of environmental programs
- An environmental health vision? Or a shared vision?
- Should have same type of **shared vision**.
- Environmental health and environmental "core values" should be shared in a vision as an "Army" vision
- Define Environmental Health, e.g., "Health pieces of environment" orheat, cold, altitude, sanitation, etc., or impact on public health
- Develop a vision that the Army can buy into
 - Effect of all Army environmental actions
 - NOTE: all used to so not to be perceived as another NEPA type process
- Weave appropriate environmental health aspects into Army Environmental Strategy into the 21st Century



This relationship led the *Group* to discuss and address a vision concept that would include core values shared by both the environmental and environmental health communities. Examples of such shared values may include: protected human health, environmental stewardship, fiscal responsibility, cost- and outcome effectiveness, preservation (e.g., medical preservation enhancing readiness through health and environmental preservation enhancing readiness through availability of training areas), compliance with laws, and reflecting the will of people.

The Vision

We elected to identify a specific *Vision Statement* and to use the Collins and Porras parameters as detailed discussion / background and basis for the statement. From these considerations the *Vision Statement* that was developed is:

The effect of all Army environmental plans, decisions, and actions reflect impact on human health.

We identified a *goal* to reflect our vision. Our *goal* is

To integrate environmental health in all environmental plans, decisions, and actions.

This *goal* is viewed as compatible with the overall goal for *Environmental Health* which was presented earlier.

Identification of Management Options and Strategies

During the Second Work Group Meeting, the panel identified numerous ideas to be considered for *Strategies* to enhance the relationship between the environmental and environmental health communities. They also recognized that many of the ideas can be grouped into several categories. We expanded the groupings to include additional categories that are redefined as *Strategies* and shown below. These strategies are somewhat analogous to the considerations (e.g., doctrine, training, leadership, organization, materiel, and soldiers [DTLOMS]) that combat developers apply to assess and improve war fighting capabilities. The individual ideas listed under each *Strategy* can be pursued to approach the *Vision* (reach the *Goal*) that was identified earlier. Table 9 shows the individual ideas that are grouped by *Strategy*. *However, these ideas are presented as examples and are not meant to be recommendations. In fact, adoption of some ideas might be incompatible with others.* The following are descriptions of the *Strategies* that can be pursued to improve the relationship between environmental and environmental health programs:

Policy and Doctrine. Enforce, fully implement, modify existing policy and doctrine, or develop and implement new ones to improve the relationship between the environmental and environmental health communities.

Education and Training. Educate and train environmental health and environmental professionals about the total scope, capabilities, resources, and access to each community.

Senior Leadership Buy-in. Obtain Secretariat and ARSTAF advocacy to fully partner environmental and environmental health programs and activities at all levels throughout the Army.

Organizations/Manpower and Personnel. Develop formal partnerships (e.g., virtual assignments, liaison positions, TDA assignments, etc.) between environmental and environmental health programs and activities (to include the Safety Community's role in Occupational Health) at all levels throughout the Army.

Table 9. Work Group Ideas for Strategies

Education and Training

- Develop executive tools for risk assessment in decision making and train managers in using tools
- Improve KSA's for environmental health professionals/standard credentials
- Training needs assessment - entry, mid-career, and senior level
- Adjust Position Descriptions for environment and environmental health training
- Application training in medical planners course for CINC support
- Awareness/application training at all military training/education levels, i.e., ROTC/Service Academies and beyond
- Put environmental health considerations in military training exercises
- More of each community's agenda items in environmental and environmental health conferences

Organizations / Manpower and Personnel

- Obtain data on environmental health staffing to include experience and training
- Environmental health personnel to Army (non-medical) R&D laboratories
- Environmental health personnel in DOD/Army Environmental Regional offices
- Direct support environmental health personnel assigned/detailed/liaison to environmental activities at all levels
- Develop agreements and co-locate environmental health and environmental programs
- Virtual environmental health assignments
- DASA(ESOH): define environmental health and occupational health; change title to reflect environmental health
- Combine CHPPM and AEC? (Reference: AEPI Report, 1996)
- Resolve propensity between Manpower and Reserve Affairs and DASA(ESOH) for environmental health role
- Consider Safety Community's role

Policy/Doctrine

- Implement existing guidance; Modify regulations and guidance (CHPPM)
- Establish coordinated definition for environmental health
- Documented/standard coordination document
- Mandate installation environmental managers to include health aspects in all issues
- Put environmental health considerations in military training exercises
- Include environmental health in updated environmental strategy

Research and Development

- Develop executive tools for risk assessment in decision making and train managers in using tools
- Develop environmental health tools for real-time decision making
- Screen all environmental projects including R&D efforts for medical significance and medical R&D role
- Gap analysis of risk assessment data; develop missing high quality data
- Better coordination between environmental health R&D and environmental programs R&D
- Establish guidance on who pays for environmental health R&D in support of environmental programs
- Investigate nanotechnology's management benefits and health effects

Senior Leadership Buy-in

- Put environmental health on next Senior Executive Level Conference (SELC) agenda
- DASA(ESOH) buy-in

Marketing

- Web page catalog of Army environmental health expertise
- Market environmental health as Quality of Life (QOL) issue
- Combined effort by MEDCOM to market environmental health capabilities to every environmental program
- Database of environmental health opportunities and efficiencies
- Army wide environmental health needs survey
- Provide one-stop shopping for environmental health services
- Look at opportunities in nonstockpile chemical weapons and cleanup

Management

- *Status quo*
- Gap analysis: Does compliance equate to soldier and public health?
- Institute operational risk analysis as Navy does
- Develop metrics for environmental health return-on-investment (ROI)
- Put language in Defense Planning Guidance (DPG), The Army Plan (TAP), and other Army strategic plans
- Look at tri-service option
- Privatization
- Project future health issues (type, size, training) and health/mission importance
- Define process and relationships for Army support of DOD international initiatives

Research, Development, and Acquisition. Develop formal processes to identify medical/health / environmental health research needs in environmental programs and activities and to develop them into funded research requirements.

Marketing. Market a total environmental health program (i.e., resources/services at installations and MACOMs, CHPPM organizations, MRMCMC/USACEHR capabilities, etc.) to all environmental programs and activities providing information, e.g, what environmental health is, why it is needed / consequences of not employing, how to acquire service/support, etc.

Suggestions for Implementing Options

The *strategies* shown in TABLE9 can be tailored to promote and enhance the environmental - environmental health relationship. Thus, we suggest that such tailoring is a means of *implementing* these *strategies* and can include the following three methods:

- Stimulating existing programs and relationships;
- Developing and employing new programs, relationships, and opportunities; or,
- Combining the above two.

Generally, it is not possible to pursue all aspects of a plan simultaneously often because of factors e.g., time, resources, competing priorities, etc. Thus, typically, segments must be prioritized and phased. An example of a sequence for executing various strategies (prioritization) is:

- Senior Leadership Buy-in
- Policy and Doctrine
- Education and Training
- Organizations / Manpower and Personnel
- Marketing
- Research and Development

Summary and Conclusions

This study was commissioned by the US Army Center for Environmental Health Research and the US Army Medical Research and Materiel Command, and one specific emphasis was to focus on medical research and development as a strategy for enhancing the relationship between environmental and environmental health programs. However, because of the issues that were identified and the existing relationships between the two communities the study necessarily had to address organizational relationships and dynamics at multiple levels of the US Army ranging from the Secretariat through the ARSTAF through MACOMs to installations. Even though military field operations (e.g., strategic [environmental security] and tactical [theater] operations) were not addressed in this study, growing concerns and emphasis on environmental issues in this area also suggest that medical interplay is necessary and the organizational dynamics discussed in this study are applicable.

In order to achieve the best return for our investment in these austere times, the close working relationships and integration of the environmental and environmental health programs and initiatives must be continually improved at all levels of the defense organizations, such as Deputy Undersecretary of Defense, Environmental Security (DUSD-ES) and Health Affairs; Deputy Assistant Secretary of the Army, Environment, Safety, and Occupational Health [DASA(ESOH)] and Office of the Surgeon General (OTSG); AEC and USACHPPM; and Installation Directorate of Public Works (DPW) and Preventive Medicine (PVNTMED) services. Strategies that could be applied to accomplish and/or improve such relationships include: Senior Leadership Buy-in, Policy and Doctrine, Education and Training, Organizations / Manpower and Personnel, Marketing, and Research and Development.

Medical Research and Development is a *Strategy* that could be employed to enhance the relationship between the environmental and environmental health communities. It is a strategy for developing and improving the technology associated with the specific topical areas and functions of environmental health. It provides basic biological and health effects information that allows the formulation of health risk assessments to influence the standards setting process. It also affects *controls* and *monitoring* by discovering new analytical and treatment methodologies. By influencing environmental health critical *functions*, Army medical research and development affects the application of science and the practice of environmental health, and thus can have a major impact on setting policy. While there is a defined mechanism for establishing research requirements for military materiel that support combat doctrine, there is not an equivalent system for establishing research requirements for needs that are not related to combat doctrine nor to support environmental efforts. Therefore, R&D should be a separate *Strategy* and it should be a component of the other strategies. For example, as a component of the *Education/Training Strategy*, environmental health personnel who are strategically located throughout the Army to support environmental programs, in addition to global knowledge about Army environmental health programs and services (e.g., CHPPM, MEDCOM, etc, would be taught about the role and mission of medical R&D programs, how to access MRMC support,

and how to develop/influence research requirements.

The following are specific *conclusions*:

- There is not universal acceptance of the definition and *scope* (including *topics* and *functions*) for *Environmental Health*.
- The potential contributions of environmental health personnel and programs are hampered by the lack of consensus on definition and *scope* (*functions*).
- The integration of environmental health with environmental programs as practiced by AEC-CHPPM and AAPPPO are positive (good) examples of how the partnership should work.
- The close working relationships and integration of the environmental and environmental health programs and initiatives must be continually improved at all levels of the defense organizations.
- Medical R&D should be a separate *Strategy* and it should complement other strategies to enhance the interaction and partnering of environmental and environmental health programs and organizations.
- Our *Environmental Health Policy Study Model* and process is an appropriate way to evaluate and formulate policy.

Recommendations

- Develop consensus on environmental health functions for major environmental programs (e.g., Chem-Demil, NBC-e, JGAPP, etc.) and at each organizational level.
- Continue to expand and refine the information to fill in data gaps about individual organizations by personal interview and questionnaire as shown in **Appendix E**.
- Conduct additional more focused studies, perhaps in coordination with AEPI, at various Army organizational levels (e.g., installation, MACOM, ARSTAF, Secretariat).

Acknowledgments

We would like to thank the *Work Group* and *General Meeting* participants for sharing their expertise and wisdom to this study. We also extend our appreciation to Dr. Kenneth Juris, Technical Director of the US Army Environmental Center, and Lieutenant Colonel KK Phull, Director of Environmental Health Engineering, US Army Center for Health Promotion and Preventive Medicine. We also thank Colonel Steve Walker, Office of the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health, for his interest and professional guidance. Finally, we are greatly indebted to Dr. Nusrat Bhatti for her assistance as a Research Associate for this project.

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Appendix

A

Abbreviations and Acronyms

Abbreviations and Acronyms

A

AAE	Army Acquisition Executive
AAPPSO	Army Acquisition Pollution Prevention Support Office
ACSIM	Assistant Chief of Staff for Installation Management
ACGIH	American Conference of Governmental Hygienists
AEC	US Army Environmental Center
AEPI	Army Environmental Policy Institute
AFMIC	Armed Forces Medical Intelligence Center
AMC	US Army Materiel Command
AMEDD	Army Medical Department
AMEDDC&S	Army Medical Department Center and School
ANG	Army National Guard
AR	Army Regulation
ARDEC	U.S. Army Armament Research, Development and Engineering Center
ARL	Army Research Laboratory
ARNG	Army National Guard
ARO	Army Research Office
ARSTAF	Army Staff
ASA(CW)	Assistant Secretary of the Army for Civil Works
ASA(IL&E)	Assistant Secretary of the Army for Installations, Logistics, and Environment
ASA(MRA)	Assistant Secretary of the Army for Manpower and Reserve Affairs
ASA(RDA)	Assistant Secretary of the Army for Research, Development, and Acquisition

C

CAR	Chief of Army Reserves
CERL	U.S. Army Corps of Engineers Construction Engineering Research Laboratories
Chem-Demil	Chemical Demilitarization
CINC	Commander in Chief
CHPPM	US Army Center for Health Promotion and Preventive Medicine
CONUS	Continental United States
COT	Committee on Toxicology
CPW	U.S. Army Corps of Engineers Center of Public Works
CRRL	U.S. Army Corps of Engineers Cold Regions Research Laboratory
CSA	Chief of Staff of the Army

D

DA	Department of the Army
DAS	Director of the Army Staff
DASA(ESOH)	Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health
DCSLOG	Deputy Chief of Staff for Logistics
DCSOPS	Deputy Chief of Staff for Operations
DDR&E	Director of Defense Research and Engineering
DEHE	Directorate of Environmental Health Engineering
DERA	Defense Environmental Restoration
DHS	Director of Health Services
DLA	Defense Logistics Agency
DLS	Directorate of Laboratory Services (CHPPM)
DOD	Department of Defense
DOS	Directorate of Occupational Sciences
DOT	Directorate of Toxicology
DPG	Defense Planning Guide
DPW	Directorate of Public Works
DSA	Direct Support Activity

DUSD-ES	Deputy Under Secretary of Defense for Environmental Security
E	
ECAS	Environmental Compliance Assessment System
EE	Environmental Engineer
EH	Environmental Health
EIS	Environmental Impact Statement
EO	Executive Order
EOCC	Environmental Quality Control Council
ESO	Environmental Science Officer
ETTC	Environmental Technology Technical Council
F	
FORSCOM	US Army Forces Command
FUDS	Formerly Used Defense Sites
G	
GC	General Council
H	
HA-ES	Health Affairs- Environmental Security
HHA	Health Hazard Assessment
I	
IEC	Industrial Ecology Center
IRP	Installation Restoration Program
J	
JGAPP	Joint Group on Acquisition Pollution Prevention
M	
MACOM	Major Commands
MEDCEN	Medical Center
MEDCOM	US Army Medical Command
MEDDAC	Medical Department Activity
MOU	Memorandum of Understanding
N	
NATO	North Atlantic Treaty Organization
NBC-e	Nuclear, Biological, Chemical - Environmental
O	
OCONUS	Outside the Continental United States
ODEP	Office of the Director of Environmental Programs
ODEP	Office of the Director of Environmental Programs
ODS/DS	Operation Desert Storm/Desert Shield
OH	Occupational Health
OOTW	Operations Other Than War
OSHA	Occupational Safety and Health Act or Occupational Safety and Health Administration
OTSG	Office of the Surgeon General

P

PACOM	US Pacific Command
PEO	Program Executive Office
PMA	Preventive Medicine Activity
PREVMED	Preventive Medicine

Q

QOL	Quality of Life
-----	-----------------

R

R&D	Research and Development
RDEC	Research, Development, and Engineering Center
RDT&E	Research, Development, Test and Evaluation
REO	Regional Environmental Office
ROI	Return on Investment
RPD	Research Program Directorate

S

SAILE(ESOH)	Secretary of the Army for Installations, Logistics, and Environment (Environment, Safety, and Occupational Health)
SECDEF	Secretary of Defense
SERDP	Strategic Environmental Research and Development Command
SELC	Senior Executive Level Council
SMA	Sergeant Major of the Army
SOUTHCOM	US Southern Command
SSCO	Small Scale Contingency Operations

T

TAACOM	U.S. Army Tank, Automotive and Armaments Command
TAP	The Army Plan
TDA	Table of Distribution and Allowance
TJAG	The Judge Advocate General
TO&E	Table of Organization and Equipment
TRADOC	US Army Training and Doctrine Command
TSG	The Surgeon General

U

US	United States
USAARL	US Army Aeromedical Research Laboratory
USACE	U.S. Army Corps of Engineers
USACEHR	US Army Center for Environmental Health Research
USD(A&T)	Under Secretary of Defense for Acquisition and Technology
USEPA	US Environmental Protection Agency
USAMRICD	US Army Medical Research Institute of Chemical Defense
USAMRIID	US Army Medical Research Institute of Infectious Diseases
USARC	US Army Reserve Command
USAREUR	US Army Europe
USARIEM	US Army Research Institute of Environmental Medicine
USUHS	Uniformed Services University of the Health Sciences

W

WES	US Army Engineer Waterways Experiment Station
WHO	World Health Organization
WRAIR	Walter Reed Army Institute of Research

**Appendix
B**

Organizations Questionnaire

Organizations Questionnaire

Organization Name and Address

All Organizations:

Provide a copy of the following (all may not apply; some may be duplicative): Organization and functions manual, SOPs, Mission Statement, Descriptions of specific Environmental Programs.

For Environmental organizations:

- What types of Environmental Programs does the organization conduct?

- Is there an office responsible for Environmental Programs? What is it?

- Who is responsible?

- What is the responsible persons chain-of-command (e.g., rater, senior rater, etc.; give position title, not the individuals' names)?

- Who is the decision maker in the organization concerning Environmental Programs?

- Is there interaction with Medical personnel concerning Environmental programs?

-- Who?_____

-- Is this formal or informal?_____

- Are health considerations addressed during Environmental Program decisions?

- Are you familiar with "Environmental Health"?

-- Do you think or know whether it is a medical discipline?_____

- Are you familiar with Army or DOD "Environmental Health" research?_____

-- Do you have a need for Environmental Health or research support? Specify, if yes.

- Who are your customers? What Environmental Programs do you support? (Column A)
- Is the support formal or informal? (Check Column B or C)
- What is the nature of the support?
 - Service (e.g., studies, sampling and analysis, etc.)? (Check Column D)
 - Consultation/Advice? (Check Column E)
 - Is the support considered as a "medical" role? (Check Column F)
 - Is it considered to be the Surgeon General's position? (Yes[Y], No[N] Column G)

[illegible]

**Appendix
C**

**Environmental and Environmental Health Professionals
Who Participated in the Work Group Meetings**

**Environmental and Environmental Health Professionals
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**Appendix
E**

**U.S. Army and Related Organizations Believed to
Have Environmental/Environmental Health
Missions or Programs**

U.S. Army and Related Organizations Believed to Have Environmental/Environmental Health Missions or Programs

INDEX

Organization	Page
DEPARTMENT OF THE ARMY	80
• The Secretary of the Army (SA)	80
• Office of the Assistant Secretary of the Army (Manpower and Reserve Affairs) (MRA)	80
• The Assistant Secretary of the Army (Research, Development & Acquisition) (ASA(RDA))	81
• The Assistant Secretary of the Army (Civil Works) (ASA(CW))	81
• The Assistant Secretary of the Army (Financial Management) (ASA(FM))	82
• The US Army Cost and Economic Analysis Center (USACEAC)	83
• Assistant Secretary of the Army (Installations, Logistics, and Environment) (ASA(IL&E))	83
• U.S. Army Environmental Policy Institute (AEPI)	84
• Deputy Assistant Secretary of the Army for Environment, Safety & Occupational Health	84
• The Chief of Staff, Army (CSA)	85
• U.S. Army Environmental Center	85
• Office of Assistant Chief of Staff for Installation Management (ACSIM)	85
(Environmental Programs)	85
• Office of Director of Environmental Programs (ODEP)	86
• Army Safety Office	86
• Army Safety Center	87
• Office of the Surgeon General (Preventive Medicine)	87
• The Surgeon General (TSG)	18
• The Deputy Chief of Staff for Logistics (DCSLOG)	88
• The Deputy Chief of Staff for Operations and Plans (DCSOPS)	89
• The Judge Advocate General (TJAG)	89
• The Chief, Army Reserve (CAR)	89
• The Director, Army National Guard (ARNG)	90
• The Chief, Public Affairs (CPA)	90
• Strategic Studies Institute, US Army War College	90
U.S. ARMY EUROPE & SEVENTH ARMY	92
• Office of the Deputy Chief of Staff, Engineer- Environmental Division	92
• Office of the Command Surgeon	92
EIGHTH ARMY	93
• Assistant Chief of Staff for Engineering, Environmental Program Office	93
• 18th Medical Command, Chief of Preventive Medicine Services (PM)	93
U.S. ARMY FORCES COMMAND	94
• The Commanding General (CG), U.S. Army Forces Command (FORSCOM)	94
• Environmental Office	94
• Office of the Command Surgeon	94
OTHER MAJOR COMMANDS	96
• U.S. Army Special Operations Command (SOC)	96
• US Army Southern Command	96
• US Army Pacific Command	96
U.S. ARMY RESERVE	97
• The U.S. Army Reserve Command (USARC)	97
• Command Surgeons Office	97
• Third U.S. Army (ARCENT)	97
• Environmental Division, Assistant Chief of Staff, Engineers	97
• Surgeon's Office / Staff Medical Advisor	97
• First U.S. Army	98
• Environmental Division, Assistant Chief of Staff, Engineers	98
• Surgeon's Office / Staff Medical Advisor (SMA)	98
US ARMY NATIONAL GUARD	99

• Environmental Programs Division	99
• The Office of the Surgeon	99
• The Army Guard AMEDD Support Center (FOA)	10
US ARMY MATERIAL COMMAND	101
• Office of the Command Surgeon	101
• Deputy Chief of Staff for Engineering, Housing, Environment, and Installation Logistics (DCS, EHE&IL)	101
• Environmental Quality Division	102
• Army Material Command Installations & Services Activity	103
• Army Acquisition Pollution Prevention Support Office	104
• US Army Research Laboratory (ARL)	104
• US Army Research Office (ARO)	105
• U.S. Army Armament Research, Development, and Engineering Center (ARDEC), U.S. Army Tank, Automotive and Armaments Command (TAACOM)	105
• Industrial Ecology Center	106
• Pollution Prevention Environmental Quality Basic Research and Development Program (EQBRD)	107
• Pollution Prevention Pillar of the Strategic Environmental Research and Development Program (SERDP)	107
• National Defense Center Environmental Excellence (NDCEE)	107
• U.S. Army Edgewood Research, Development, and Engineering Center	108
• Other Research, Development, and Engineering Centers (RDECs)	109
• Non-medical Materiel Acquisition Program Managers	109
U.S. ARMY MEDICAL COMMAND	110
• US Army Center for Health Promotion and Preventive Medicine (CHPPM)	110
• Office of the Scientific Advisor	110
• Directorate of Laboratory Sciences	111
• Deputy Chief Of Staff for Operations	111
• Directorate of Occupational Sciences	112
• Directorate of Toxicology	112
• Directorate of Environmental Health Engineering	112
• Direct Support Activities	113
• North	113
• South	113
• West	113
• Europe	114
• Pacific	114
• Environmental Health Section, Preventive Medicine Activity, Medical Centers (MEDCENS)	114
Medical Department Activities (MEDDACs) and Medical Clinics	114
• North Atlantic Regional Medical Command (NARMC), Washington, DC	114
• Southeast Regional Medical Command (SERMC), Fort Gordon, Georgia	114
• Southwest Regional Medical Command (SWRMC), Fort Bliss, Texas	114
• Northwest Regional Medical Command (NWRMC), Fort Lewis, Tacoma, Washington	114
• Great Plains Regional Medical Command, Fort Sam Houston, Texas	115
• Pacific Regional Medical Command (SERMC), Honolulu, Hawaii	115
• U.S. Army Reserve Brigades and Hospitals	115
• U.S. Army Medical Research and Materiel Command (MRMC)	115
• Headquarters	115
• Research Program Directorate (RPD) - Army Operational Medicine	116
• U.S. Army Center for Environmental Health Research	116
• U.S. Army Research Institute of Environmental Medicine (USARIEM)	117
• U.S. Army Medical Research Institute of Chemical Defense (USAMRICD)	118
• U.S. Army Medical Research Institute of Infectious Disease (USAMRIID)	115
• Walter Reed Army Institute of Research (WRAIR)	119
• U.S. Army Medical Research Detachment (WRAIR), Tri-Service Toxicology Consortium	119
• Medical Materiel Acquisition Program Managers	120

• U.S. Army Medical Center and School (AMEDDC&S)	120
U.S. ARMY TRADOC	122
• Commander	122
• Environmental Division	122
• Command Surgeon	122
• The Army Logistics Management College (ALMC)	122
• Center for Environmental Initiatives and Hands-On-Training (CEIHOT)	122
• U.S. Army Engineer School, Environmental Doctrine and Training Products	123
U.S. ARMY CORPS OF ENGINEERS	124
• Headquarters U.S. Army Corps of Engineers	124
• Engineers Strategic Studies Center	124
• Baltimore District Environmental Services	125
• U.S. Army Environmental Training Support Center, Huntsville Division	125
• Environmental Management Program, North Central Division	126
• Defense Environmental Restoration and Formerly Used Defense Site (FUDS) Programs	
Rock Island District	126
• US Army Engineer Waterways Experiment Station (WES)	127
• Environmental Laboratory/Wetlands Research and Technology Center	127
• Strategic Environmental Research and Development Program	128
• U.S. Army Corps of Engineers Construction Engineering Research Laboratories (USACERL)	128
• Omaha District Corps of Engineers	128
JOINT SERVICE AND DOD ORGANIZATIONS	129
• Office of the Deputy Under Secretary of Defense for Environmental Security	129
• Defense Supply Center, Defense Logistics Agency (DLA) (Hazardous Material Information System)	129
• Hazardous Technical Information Services (HTIS), Defense Supply Center	130
• Joint Group on Acquisition Pollution Prevention (JG-APP)	130
• Joint Pollution Prevention Advisory Board (JPPAB)	130
• Armed Forces Medical Intelligence Center (AFMIC)	131
• Uniformed Services University of the Health Sciences (USUHS)	131
• Deputy Assistant Secretary of Defense for Peacekeeping and Humanitarian Assistance	132
OTHER ORGANIZATIONS OR PROGRAMS OF POSSIBLE INTEREST	133
• National Research Council Committee on Toxicology (COT)	133

DEPARTMENT OF THE ARMY

The Secretary of the Army (SA)

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Department of the Army
The Secretary of the Army
101 Army Pentagon
Washington DC 20310-0101

Mission/Purpose/Vision: The secretary of the Army, pursuant to section 3013, title 10, United States Code, as amended, is responsible and has authority to conduct all affairs of the Department of the Army. This General Order assigns to the Under Secretary of the Army; Assistant Secretaries of the Army; General Council; Administrative Assistant; Director of Information Systems for Command, Control Communications, and Computers; The Inspector General; The Auditor General, Deputy Under Secretaries of the Army, Chief of legislative Liaison, Chief of Public Affairs, and Director, Office of Small and Disadvantaged Business Utilization functions, responsibilities, and duties pursuant to the authority contained in sections 3013, 3014, 3015, 3016, 3018, 3020, & 3022, title 10, and section 644, title 15, United States Code.

Reference: General Orders No 12, Headquarters, Department of the Army, Washington, DC, 30 August 1995

Office of the Assistant Secretary of the Army (Manpower and Reserve Affairs) (MRA)

Address: Office of the Assistant Secretary (Manpower and Reserve Affairs)
The Pentagon Room 2E594
Washington DC 20310

Mission/Purpose/Vision: The Assistant Secretary of the Army (Manpower and Reserve Affairs) shall have as the principal responsibility the overall supervision of manpower, personnel, and reserve component affairs of the Department of the Army. The ASA(MRA) acts with the full authority of the Secretary (of the Army), unless otherwise restricted, in the execution of assigned responsibilities. Among the responsibilities of the ASA(MRA) are: Department of the Army organization and force structure; Readiness, Mobilization, and Deactivation; National Guard and Army Reserve policy; Direction to the Army Reserve Forces Policy Committee; Civil-Military cooperation programs, including Junior Reserve Officer Training Corps (JROTC); Training and education including all international training and educational matters, in cooperation with the DUSA(IA); Recruiting and recruiting advertising; Military compensation; Morale, welfare, recreation, nonappropriated fund activities and contracts, including family advocacy, family and community support, and quality of life issues; Department of the Army Military Review Boards, consisting of the Army Board for Correction of Military Records, the Army Council of Review Boards, and the Army

Clemency and Parole board; Equal employment and affirmative action; Policy involving foreign nationals; Department of the Army Military Review Boards, consisting of the Army Board for Correction of Military Records, the Army Council of Review Boards, and the Army Clemency and Parole Board; Personnel security and discipline; Law enforcement and military justice matters in coordination with the Army General Counsel; Chaplaincy programs; Army exchange and commissary matters; Military manpower and personnel policy and management; Direct supervision of civilian manpower and personnel policy, management, and related functions; In coordination with the ASA(FM&C), linking manpower authorizations to civilian compensation; Manpower and Personnel Integration (MANPRINT) Program; Health Affairs; Coordination and monitoring the Civilian Aides to the Secretary of the Army Program; Formulation and oversight of burial policy at Arlington National Cemetery and the Soldiers' and Airmen's Home National Cemetery, including recommendations to the Secretary of the Army for exceptions to burial policy.

Reference: General Orders No. 12, Assignment of Functions, Responsibilities, and Duties Within the Office, Secretary of the Army

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Research, Development & Acquisition (ASA(RDA))
103 Army Pentagon
Washington DC 20310-0103

Mission/Purpose/Vision: The Assistant Secretary of the Army (Research, Development, and Acquisition)(ASA(RDA)) serves, when delegated, as the Army Acquisition Executive, the Senior Procurement Executive, the Science Advisor to the Secretary, and serves as the senior research and development official for the Department of the Army. The ASA(RDA) acts with the full authority of the Secretary, unless otherwise restricted, in the execution of assigned responsibilities.

Reference: General Orders No 12, Headquarters, Department of the Army, Washington, DC, 30 August 1995

The Assistant Secretary of the Army (Civil Works) (ASA(CW))

Internet: <http://www.hqda.army.mil/asacw/mission.htm>
Phone: (703) 697-8986
Fax: (703) 697-7401
Address: Headquarters
Department of the Army
The Assistant Secretary of the Army Civil Works (ASA(CW))

108 Army Pentagon
Washington, DC 20310-0108

Mission/Purpose/Vision: A number of Army activities traditionally have been referred to as "Civil Functions of the Department of the Army". These include the civil works program of the US Army Corps of Engineers; Arlington and the Soldiers' and Airmen's Home National Cemeteries; oversight of the Panama Canal Commission; and the foreign activities of the Corps of Engineers nor exclusively in support of military forces overseas. A variety of funding sources - for example, the annual Energy and Water Development Appropriation Acts in the case of Civil Works Program - finance these activities.

Reference: General Orders No 12, Headquarters, Department of the Army, Washington, DC, 30 August 1995

The Assistant Secretary of the Army (Financial Management) (ASA(FM))

Internet: http://134.11.192.15/org/o&t/asa_O&F.htm
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Department of the Army
The Assistant Secretary of the Army
Financial Management (ASA(FM))
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Washington DC 20310-0109

Mission/Purpose/Vision: Some of the Assistant Secretary's specific responsibilities are to: Direct and manage the Department of the Army's financial management activities and operations; Execute the Department of the Army's planning, programming, budgeting and execution System (PPBES), including oversight of Army program development, preparation of budget estimates, and otherwise implementing, with respect to the Department of the Army, the functions specified for the Comptroller of the Department of Defense in Title 10 U.S.C. section 137(c); Approve the establishment and supervision of the operation of any financial management system; Establish and maintain Department of the Army financial management systems (including accounting systems, internal management control systems, and financial reporting systems) in accordance with Title 10 U.S.C Section 3022; etc. The US Army Cost and Economic Analysis Center (CEAC) is a Field Operating Agency of the ASA(FM&C) that provides cost and economic analysis support to the Planning, Programming, Budgeting and Execution System. It Conducts statutory Independent Cost Estimates (ICEs) and Component Cost Analyses for Weapons & C4 Systems, prepares ICEs for ACAT 1C programs, conducts Force Structure, Operations and Support, and installation cost analyses, and develops data bases, cost models, and cost estimating relationships. The Cost Review Board (CRB) Support Office: supports development of and documents the Army Cost Position and Cost Analysis Brief for selected Army major programs, validates the costs associated with the acquisition of selected Army major programs, conducts cost risk analyses for selected Army major programs and develops Army cost risk policy, and conducts environmental cost

analyses for selected Army programs

US Army Cost and Economic Analysis Center (USACEAC)

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Mission/Purpose/Vision: The US Army Cost and Economic Analysis Center (USACEAC) is a Field Operating Agency of the ASA(FM&C) that provides cost and economic analysis support to the Planning, Programming, Budgeting and Execution System. The Deputy for Cost Analysis is the principal advisor to the Assistant Secretary of the Army (Financial Management and Comptroller) (ASA(FM&C)) on all Army cost and economic analysis activities and also is the Director of the U.S. Army Cost and Economic Analysis Center (USACEAC). It Conducts statutory Independent Cost Estimates (ICEs) and Component Cost Analyses for Weapons & C4 Systems, prepares ICEs for ACAT 1C programs, conducts Force Structure, Operations and Support, and installation cost analyses, and develops data bases, cost models, and cost estimating relationships. The Cost Review Board (CRB) Support Office: supports development of and documents the Army Cost Position and Cost Analysis Brief for selected Army major programs, validates the costs associated with the acquisition of selected Army major programs, conducts cost risk analyses for selected Army major programs and develops Army cost risk policy, and conducts environmental cost analyses for selected Army programs

Assistant Secretary of the Army (Installations, Logistics, and Environment) (ASA(IL&E))

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Department of the Army
Assistant Secretary of the Army
Installations, Logistics, and Environment (ASA (IL&E))
110 Army Pentagon
Room 2E577
Washington DC 20310-0110

Mission/Purpose/Vision: The ASA (IL&E) has as the principal all Department of the Army matters related to the installations, logistics, environment, safety, and occupational health. This includes all aspects of the full spectrum of pollution control and environmental protection that have application to the Department of the Army in the formulation of environmental policies and programs, except for civil works activities. The ASA(I, L&E) acts with the full authority of the Secretary, unless otherwise restricted, in

the execution of assigned responsibilities.

Reference: General Orders No 12, Headquarters, Department of the Army, Washington, DC, 30 August 1995

U.S. Army Environmental Policy Institute (AEPI)

Internet: <http://aepi.gatech.edu/>
Phone: (404) 892-3099
Fax: (404) 892-9381
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U.S. Army Environmental Policy Institute (AEPI)
430 Tenth Street, NW
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Mission/Purpose/Vision: To assist the Army Secretariat in the development of proactive policies and strategies to address environmental issues that may have significant future impacts on the Army. The institute was established in 1990 following recommendations from Senior Environmental Leadership Conference participants. As of 1 October 94 the Institute relocated to the Georgia Institute of Technology campus in Atlanta, GA.

References: - Under Secretary of the Army, Army Environmental Program,
Environmental Policy Institute Charter, dated 13 September 1990,
subject: Establishment of the Army Environmental Policy Institute
(AEPI)
- General Orders No. 18 dated 30 August 1993, Realignment of the United
States Army Environmental Policy Institute (AEPI) to OASA(IL&E).

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Address: Department of the Army
Deputy Assistant Secretary of the Army
Environment, Safety & Occupational Health
110 Army Pentagon
Room 2E577
Washington DC 20310-0110

Mission/Purpose/Vision: Environmental Vision: The Army will be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of our mission. Safety Vision: The vision of Safeforce21 is for Army Safety Program to be the model for maximizing mission effectiveness of systems, organizations, and operations through accident prevention during peacetime and wartime. Occupational Health Vision: The Occupational Health Program will be the leader providing focused, world-class occupational health services supporting Force XXI.

Reference: "Army: A Real Success Story: 1995 Accomplishment Report on

Environment, Safety, Occupational Health" Published by the Army
Environmental Policy Institute.

The Chief of Staff, Army (CSA)

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Department of the Army
The Chief of Staff, Army (CSA)
200 Army Pentagon
Room 3-E 668
Washington DC 20310-0200

U.S. Army Environmental Center

Internet: <http://aec-www.apgea.army.mil:8080/prod/usaec/bkgrnd.htm>
Phone: (410) 671-4228/1214
Fax: (410) 671-3132
Address: Commander
U.S. Army Environmental Center
Aberdeen Proving Ground, MD 21010-5401

Mission/Purpose/Vision: The USAEC works hand-in-hand with the environmental staffs of the Army's major commands, the U.S. Army Corps of Engineers' divisions and districts, field operating activities, installations, and facilities nationwide and around the world. USAEC's support encompasses the four pillars of the Army's environmental strategy for the 21st century: Compliance, Restoration, Prevention, Conservation. This environmental support takes many forms. The USAEC team conducting site investigations, testing ground water, reviewing Army environmental requirements, implementing new sampling technologies is drawn from a staff of over 200 military and civilian professionals. The AEC has an Environmental Response Line to provide information and answers to inquiries on environmental issues. If questions cannot be answered by AEC staff, they will query outside resources, e.g.; CHPPM or others.

Office of Assistant Chief of Staff for Installation Management (ACSIM) (Environmental Programs)

Internet: <http://hqda.army.mil/acsimweb/env/env1.htm>
Phone: DAIM-ED.... (703) 693-0500; DSN 223
DAIM-ZA.... (703) 693-3233; DSN 223
Fax: DAIM-ZA.... (703) 693-3507; DSN 223
Address: Headquarters
Department of the Army
Office of Assistant Chief of Staff for Installation Management (ACSIM)
ATTN: DAIM-ED (Environmental Programs)

600 Army Pentagon
Washington DC 20310-0600

Mission/Purpose/Vision: MISSION: responsible for the promulgation of policy and integration of doctrine pertaining to the planning, programming, execution, and operation of Army installations. Selected installation and environmental policy functions are assigned to the ACSIM. The Army will develop and implement cost-effective measures to protect and sustain the environment in support of military operations, installations management, and material development. Vision: The Army will integrate environmental values into its mission to sustain readiness, improve the soldier's quality of life, strengthen community relationships, and provide sound stewardship of resources.

References: - Internet

Office of Director of Environmental Programs (ODEP)

Internet: <http://hqda.army.mil/acsimweb/env/env.1.htm>
Phone: (703) 693-0078
Fax: (703) 697-2808
Address: Department of the Army
Office of Director of Environmental Programs (ODEP)
600 Army Pentagon
Washington D.C. 20310-0600

Mission/Purpose/Vision: All aspects of the full spectrum of pollution control and environmental protection that have application to the Department of the Army in the formulation of environmental policies and programs, except for civil works activities. Formerly was the U.S. Army Environmental Office until redesignated as ODEP by GO 15, 1 July 1993.

References: - Internet
- Headquarters, Department of the Army, General Orders No. 15, Establishment of the Assistant Chief of Staff for Installation Management (ASCIM) (Provisional), 1 July 1993

Army Safety Office

Phone: (703) 695-7291; DSN 225-7291
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Address: Headquarters
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The Director of Army Safety
ATTN: DACS-SF (Army Safety Office)
200 Army Pentagon
Washington, DC 20310-0200

Mission/Purpose/Vision: The mission of the Safety Center is to assist commanders, leaders, and managers to protect the Total Force and to enhance readiness through a full dimensional risk-management-based Army Safety Program. Vision: The Safety Center's

Vision is to enhance readiness of the Total Force by directing a proactive Army Safety Program to achieve world-class performance.

Reference: Fax from Anita Dudley, Safety Manager

Army Safety Center

Internet: <http://safety.army.mil>
Phone: CSSC-Z... (334) 255-1129; DSN 558-1129
CSSC-O... (334) 255-3856; DSN 558-3856
Fax: CSSC-Z... (334) 255-9478; DSN 558-9478
CSSC-Z... (334) 255-2670; DSN 558-2670
Address: Commander
US Army Safety Center
ATTN: CSSC-Z
Building 4905, 5th Avenue
Fort Rucker, AL 36362-5363

Mission/Purpose/Vision: To assist commanders, leaders, and managers to protect the Total Force and to enhance readiness through a full-dimensional risk-management-based Army Safety Program. Vision: The Safety Center's vision is to enhance readiness of the total Force by directing a proactive Army Safety Program to achieve world-class performance.

Reference: Internet

Office of the Surgeon General

Phone: (703) 681-3119
Fax: (703) 761-3163
Address: Headquarters
Department of the Army
Office of the Surgeon General
Health Services Directorate
ATTN: DASG-HSZ (Preventive Medicine)
5109 Leesburg Pike
Falls Church, VA 22041-3258

Mission/Purpose/Vision: The functions of the Environmental Health Staff at the office of the Surgeon General are to serve as Army Staff (ARSTAFF) point of contact on Environmental and Occupational Health parts of the Army Preventive Medicine Program; has the primary staff officer for environmental health engineering, occupational health and safety, industrial hygiene, material health hazards, installation and facility health risks, sanitation and hygiene policy and actions; is the backup for the Preventive Medicine Doctor on preventive medicine, infectious disease, health promotion and wellness, public health, and deployment preventive medicine actions. Establishes policies, standards, and practices to increase the efficiency of Army personnel and to decrease non-effectiveness through health education, occupational health practices, health practices, health

promotion, dental practice and readiness, health nursing practices, disease prevention and control, health aspects of environmental control, medical entomology, aviation medicine, and the establishment and maintenance of appropriate medical fitness standards.

References:

- OTSG Regulation No. 10-32, Organization and Functions, 1 February 1996
- AR 10-5, Organizations and Functions, Headquarters, Department of the Army.

The Surgeon General (TSG)

Phone: (703) 681-3113
Fax: (703) 681-3163
Address: Headquarters
Department of the Army
Office of the Surgeon General (TSG)
DASG-HS
Room 610
5111 Leesburg Pike
Falls Church VA, 22041-3258

The Deputy Chief of Staff for Logistics (DCSLOG)

Internet: <http://www.hqda.army.mil/logweb/does/mission/mission.htm>
Phone: (703) 697-2116
Fax: (703) 614-6702
Address: Headquarters
Department of the Army
The Deputy Chief of Staff for Logistics (DCSLOG)
500 Army Pentagon
Washington, DC 20310-0500

Mission/Purpose/Vision: ODCSLOG is responsible for policy, planning, programming, budgeting, management, staff supervision, evaluation, oversight and information system support for logistics activities of the department of the Army. ODCSLOG has ARSTAF responsibility for overall coordination of the major logistics disciplines: Supply, Maintenance, Readiness, Material, Integrated Logistics Support, Troop Support, Energy, Transportation and mobility, and is responsible for coordinating the logistics mission requirements and activities of the U.S. Army Reserve and Army National Guard with those of Active Component Forces. Involved with field drinking water production and logistics. POC for environmental issues: Ms. Gina George

The Deputy Chief of Staff for Operations and Plans (DCSOPS)

Phone: (703) 697-5180
Fax: (703) 697-4660
Address: Headquarters
Department of the Army
The Deputy Chief of Staff for Operations and Plans (DCSOPS)
400 Army Pentagon
Room 3E636
Washington, DC 20310-400

The Judge Advocate General (TJAG)

Phone: (703) 696-1230
Fax: (703) 696-2490
Address: Headquarters
Department of the Army
The Judge Advocate General (TJAG)
901 North Stuart Street
Suite 713
Arlington VA 22203-1837

Mission/Purpose/Vision: The Judge Advocate Legal Services (JALS) will support the total army mission by administering the military justice system and providing other quality legal services that meet the highest professional standards. The TJAG is responsible for developing and executing plans and programs in a number of legal fields to include environmental law.

NOTE: The JALS provides legal services to military commands through legal offices and legal sections headed by Judge Advocates. Their responsibilities include health care matters and environmental matters. The environmental matters include, but is not limited to, federal state, and local environmental laws and regulations; representing the command before state environmental regulatory agencies, reviewing installation National Environmental Policy Act (NEPA) documentation, and providing MACOMs with all notices of violations and noncompliance.

Reference: AR 27-1, Judge Advocate Legal Services, 3 February 1995

The Chief, Army Reserve (CAR)

Phone: (703) 696-3991
Fax: (703) 696-5371
Address: Headquarters
Department of the Army
The Chief, Army Reserve (CAR)
1815 North Fort Meyer Drive
Room 210
Arlington VA 22209

Mission/Purpose/Vision: Vision: The American Army's Federal Reserve Force trained and ready citizen soldiers enabling and augmenting the Army in peace and war to achieve total victory.

The Director, Army National Guard (ARNG)

Phone: (703) 697-5559
Fax: (703) 695-5464
Address: The Director, Army National Guard (ARNG)
Headquarters
Department of the Army
2500 Army Pentagon
Washington, DC 20310-2500

Mission/Purpose/Vision: Federal Mission: Maintain properly trained and equipped units available for prompt mobilization for war, national emergency or as otherwise needed.
State Mission: Provide Trained and disciplined forces for domestic emergencies or as otherwise required by state laws.

The Chief, Public Affairs (CPA)

Phone: (703) 695-3405
Fax: (703) 614-3354
Address: Headquarters
Department of the Army
The Chief, Public Affairs (CPA)
1500 Army Pentagon
Room 2E645
Washington, DC 20310-1500

Mission/Purpose/Vision: The Chief of Public Affairs (CPA) is responsible for the Department of the Army. Among the responsibilities of the CPA are: Preparing, coordinating, and monitoring the public affairs strategies, plans, policies, and other programs for public information, community relations, and command information; Preparing Army public affairs doctrine, training, leader development, organization, material and soldier issues and procedures; Managing the Army's Public Information Security Review Program; Executing the Department of the Army Command Information Program through print, video, and audio products and services.

Reference: General Orders No 12, Headquarters, Department of the Army, Washington, DC, 30 August 1995

Strategic Studies Institute, US Army War College

Phone: (717) 245-4212
Fax: (717) 245-3820
Address: Department of the Army
US Army War College

Strategic Studies Institute
122 Forbes Avenue
Carlisle Barracks, PA 17013-5244

Mission/Purpose/Vision: To prepare the military, civilian, and national leaders to assess strategic responsibilities in military and national security organizations; to educate students about the employment of the U.S. Army as part of a unified, joint, or multinational force in support of the national military strategy; to research operational and strategic issues; and to conduct outreach programs that benefit the US Army War College, the U.S. Army, and the nation.

U.S.ARMY EUROPE & SEVENTH ARMY

Office of the Deputy Chief of Staff, Engineer- Environmental Division

Phone: 370-8125
Address: Headquarters
US Army Europe and 7th Army
Office of the Deputy Chief of Staff, Engineer
Environmental Division
ATTN: AEAEN-EH-ENV
Campbell Barracks
Heidelberg, Germany APO AE 09014

Office of the Command Surgeon

Address: Headquarters
US Army Europe and 7th Army
Office of the Command Surgeon
Campbell Barracks
Heidelberg, Germany APO AE 09014

EIGHTH ARMY

Assistant Chief of Staff for Engineering, Environmental Program Office

Phone: 723-5049
Address: Headquarters
Eighth US Army
Assistant Chief of Staff for Engineering
Environmental Program Office
ATTN: AEAEN-EH-ENV
APO AP 96205-0009

18th Medical Command, Chief of Preventive Medicine Services (PM)

Phone: 736-3025
Address: Headquarters
Eighth US Army
Office of the Command Surgeon
18th Medical Command, Chief of Preventive Medicine
APO AP 96205-0009

U.S. ARMY FORCES COMMAND

The Commanding General (CG), U.S. Army Forces Command (FORSCOM)

Phone: (404) 464-5034
Fax: (404) 464-3686
Address: Commander
U.S. Army Forces Command (FORSCOM)
Fort McPherson, GA 30330

Environmental Office

Internet: http://www.forscom.army.mil/FC_Info.htm
Phone: (404) 464-5712
Fax: (404) 464-7827
Address: Commanding General
US Army Forces Command
Personnel and Installation Management
ATTN: AFPI-ENE
1777 Hardee Avenue, SW
Fort McPherson,, GA 30330-1062

Office of the Command Surgeon

Internet: http://www.forscom.army.mil/FC_Info.htm
Phone: (404) 464-7394
Fax: (404) 464-7512/6832
Address: Commanding General
US Army Forces Command
Office of the Command Surgeon
ATTN: AFMD
1777 Hardee Avenue, SW
Fort McPherson, Georgia 30330-1062

Mission/Purpose/Vision: Provides Preventive Medicine Services to include: technical input, analysis, coordination, inspection and direction, as appropriate, to higher, subordinate and lateral commands and other governmental agencies on preventive medicine issues, including medical intelligence and threat, medical surveillance, environmental hygiene, and medical entomology; Formulation of policies, standards, regulations and directives; Assessment preventive medicine programs to include disease control and prevention, immunizations and chemoprophylaxis, medical surveillance, environmental health and climatic injury, unit stress prevention and health information and education.; Review and assessment of medical fitness examinations and appeals concerning retention in service, special assignment, appointment, and separation; Review/assistance to Operations/Training and Readiness/Logistics Directorates in developing preventive medicine recommendations for operations and exercises,

contingency and war plans, disaster relief, military assistance to civil authorities, aid to developing countries, readiness and mobilization, force structure, and stationing of preventive medicine AC/RC units and personnel; Provision of guidance to FORSCOM Operations Center for planning and coordination of Humanitarian Assistance missions for ACOM and SOUTHCOM areas of operations; Representation of the Command Surgeon on boards, working groups and committees related to preventive medicine programs, environmental hygiene and medical entomology.

References: Fax from Headquarters Surgeons Office

NOTE: Table of Organization and Equipment (TO&E) units, (e.g., the 520th Theater Army Medical Laboratory, 44th Medical Brigade; Preventive Medicine Detachments and Division Preventive Medicine Sections have environmental health roles but are not included in this study because their focus is tactical and operational.

OTHER MAJOR COMMANDS

U.S. Army Special Operations Command (SOC)

Internet: <http://www.usasoc.soc.mil/>
Phone: (910) 432-4106
Fax: (910) 432-2036
Address: Commander
U.S. Army Special Operations Command (SOC)
Deputy Chief of Staff for Engineering
ATTN: AOEN-FA
Fort Bragg, North Carolina 20837-5212

Reference: Internet

US Army Southern Command

Address: Commander
US Army South
Fort Clayton, Panama APO AA 34002

US Army Pacific Command

Address: Commander
US Army Pacific
Building T-100
Fort Shafter, HI 96858-5100

U.S.ARMYRESERVE

The U.S Army Reserve Command (USARC)

Command Surgeons Office

Internet: <http://160.136.109.3/page2.html>
Phone: (404) 629-8111
Fax: (404) 629-8122
Address: The U.S Army Reserve Command (USARC)
Office of the Command Surgeon
3800 North Camp Creek Parkway, SW
Atlanta, GA 30331-5099

Mission/Purpose/Vision: The U.S Army Reserve Command (USARC) commands, controls, and supports all Army Reserve troop units in the Continental United States with the exception of Psychological Operations and the Civil Affairs units. The USARC also ensures the readiness of its forces and prepares the nearly 1,700 units under its command to mobilize and deploy to a wartime theater of operation. The USARC's command and control structure is designed to focus on training; readiness; supporting mobilization; and providing federal military support to other federal agencies.

Third U.S Army (ARCENT)

Environmental Division, Assistant Chief of Staff, Engineers

Phone: (404) 464-4893
Fax: (404) 464-4894
Address: Commander
Third U.S. Army
ATTN: AFRD-EN-E
1881 Hardee Avenue, South West
Fort McPherson, GA 30330-1064

Mission/Purpose/Vision: Provide environmental program management for USACENT and USCENTCOM; oversees the development of Final Governing Standards in countries with a major U.S. presence; monitors and evaluates environmental compliance and correct deficiencies in Kuwait and Saudi Arabia; incorporates environmental pollution prevention measures in projects, training, operations, and exercises.

Surgeon's Office / Staff Medical Advisor

Address: Commander
Third U.S. Army
Command Surgeon/Staff Medical Advisor
Fort McPherson, GA 30330-1064

First U.S Army

Environmental Division, Assistant Chief of Staff, Engineers

Address: Commander
First U.S Army
Assistant Chief of Staff, Engineers
Environmental Division
Atlanta, GA 30331-5099

Surgeon's Office / Staff Medical Advisor (SMA)

Address: Headquarters, First U.S. Army
ATTN: AFKD-MD
4705 N. Wheeler Drive
Forest Park, GA 30297-5000

Mission/Purpose/Vision: Provides advice to the CONUSA regarding medical concerns of operations, training, plans, mobilization, and military support to civilian authority; provides guidance on health care matters within the command.

Reference: SMA Mission Briefing

USARMYNATIONALGUARD

Environmental Programs Division

Phone: (703) 607-7964; DSN 327

Fax: (703) 607-7993; DSN 327

Address: Army National Guard Readiness Center
ATTN: NGB-APP-ILE
111 South George Mason Drive
Arlington, VA 22204-1382

Mission/Purpose/Vision: Supports Army National Guard (ARNG) readiness by obtaining and providing resources, guidance, and customer assistance while protecting human health and the environment to ensure Army National Guard compliance with all applicable laws, regulations, and policies. FUNCTIONS: provides resources, technical assistance, and official policies and guidance to ensure compliance in the protection and restoration of the environment; provides resource funding and policy guidance, training, and assistance to effectively implement the ARNG Environmental Program; provides guidance and assistance to conserve, preserve, and enhance the natural and cultural resources within the ARNG; provides resource funding, policy, guidance, assistance, and technical support to implement the Environmental Compliance Assessment System (ECAS) program of baseline data collection and reporting throughout ARNG installations while sustaining program leadership within DA; indirectly provides effective planning, focus, resourcing, development, integration, management, and administration of the ARNG Environmental Program.

Reference: fax

The Office of the Surgeon

Phone: (703) 607-7140

Fax: (703) 607-7187

Address: Army National Guard Readiness Center
ATTN: NGB-ARP-H
111 South George Mason Drive
Arlington, VA 22204-1382

Mission/Purpose/Vision: To develop, coordinate, implement, and provide guidance on Army National Guard policies and procedures; serve as advocate for Army National Guard interests; provide Army National Guard medical authorizations and resources; and research and analyze Army National Guard medical issues. Selected duties of the Office of the Chief: plan and coordinate medical readiness for the ARNG; advise the CNGB and DARNG on health and medical matters within the ARNG; provides technical guidance for all health services, facilities and medical units within the ARNG; supervises the Army Guard AMEDD Support Center (FOA)

Reference: ARNGRC OM 10-5

The Army Guard AMEDD Support Center (FOA)

Address: Army National Guard Readiness Center
The Army Guard AMEDD Support Center (FOA)
ATTN: NGB-ARP-H
Arlington, VA 22204-1382

Mission/Purpose/Vision: The Health Care and Physical Standards Section develops and provides policies for the ARNG preventive medicine program.

Reference: ARNGRC OM 10-5

USARMYMATERIALCOMMAND

Office of the Command Surgeon

Phone: (703) 617-9470
Fax: (703) 617-8558
Address: Commander
U.S. Army Material Command
Office of the Command Surgeon
50001 Eisenhower Avenue
Alexandria, VA 22333-0001

Mission/Purpose/Vision: The mission of the Office of the Surgeon is to provide policy and guidance to Headquarters AMC and subordinate elements on all medical matters. The functions of the Office of the Surgeon are to: Serve as the single POC in HQ AMC for medical policy and technical medical guidance to assure conformance with medical doctrine and practices; integrate occupational health with all aspects of industrial operations to minimize illness and injury losses suffered by both the military and civilian work forces; enhance deployment medical readiness by establishing and implementing effective predeployment preventive medicine guidelines and training for all deployable personnel; promote a healthy and fit work force by optimizing the partnership agreement between US Army Medical Command (MEDCOM) and AMC for providing occupational health care and industrial hygiene services to civilians; minimize risk to soldiers from fielded equipment by continuing to support materiel developers in conducting Health Hazard Assessments of all developmental equipment; coordinate medical care, preventive medicine, environmental health, and pollution matters with the Office of The Surgeon General and MEDCOM, as appropriate, to assure consistency with established medical practices or to develop new medical guidance; and support medical aspects of the Nuclear Surety programs for AMC and the AMC IG.

Reference: Army Materiel Command Regulation (AMC-R) 10-2

Deputy Chief of Staff for Engineering, Housing, Environment, and Installation Logistics (DCS, EHE&IL)

Phone: (703) 617-9042
Fax: (703) 617-3895
Address: Commander
U.S. Army Material Command
Deputy Chief of Staff for Engineering, Housing, Environment, and
Installation Logistics (DCS, EHE&IL)
50001 Eisenhower Avenue
Alexandria, VA 22333-0001

Mission/Purpose/Vision: Exercise command wide management over programming, development, and management of the physical plant of AMC and its CONUS installations, and all of the logistical and support services incident of the operation; Direct

the development and defense of programs involving construction, real estate, maintenance and repairs, utilities, family housing, and logistical support services; Manage and control the AMC Environmental Program for the prevention, control, and abatement of all pollution relating to installations, facilities, and material; Manage and control the AMC Energy Program for the reduction of energy consumption without degradation of mission accomplishment; Chair the AMC Energy Policy Committee (EPPC); Serve as resource strategy proponent for the Army goal of "providing facilities."

Reference: AMC-R 10-2

Environmental Quality Division

Phone: (703) 617-9016; DSN 767-9016

Fax: (703) 617-3409

Address: Commander
U.S. Army Material Command
Environmental Quality Division
ATTN: AMCEN-A
50001 Eisenhower Avenue
Alexandria, VA 22333-0001

Mission/Purpose/Vision: The mission of the EQD is to comply with the U.S. Army environmental quality goals and objectives and to manage the AMC programs for: environmental compliance; cleanup of toxic and hazardous contamination; hazardous material and waste management; waste reduction; environmental research and development (R&D), and environmental assessment. Functions: Manage environmental information/technology transfer to major subordinate commands (MSCs)/Installations/Separate Reporting Activities (SRAs); Evaluate program effectiveness through Environmental Compliance Assessment System reviews (environmental audits); Recognize environmental achievements and accomplishments via environmental awards programs for individuals and installations; Identify requirements, prioritize, and champion command wide resources to meet compliance, installation restoration, waste reduction, and installation pollution prevention, natural and cultural resource conservation, and environmental R&D requirements; Provide management, policy, and guidance for the operation of command automated environmental reporting systems. Receive and consolidate MSCs information and prepare AMC reports to Department of the Army (DA)/Department of Defense (DOD)/U.S. Environmental Protection Agency (EPA); Serve as command representative on environmental training matters; Serve as command representative on environmental matters related to conventional munitions and surety materiel, to include demilitarization; Coordinate U.S. Army Center for Health Promotion and Preventive Medicine environmental services to AMC installations; Provide support to MSCs/installations for Defense Environmental Restoration Program (DERP) management and technology, to include coordination and representing AMC at Headquarters, DA (HQDA) DERP workplan meetings to prioritize AMC's funding requirements; Promulgate policy/guidance and provide management

support to MSCs/installations/SRAs on all aspects of the following federal, state, local laws and Army regulations implementing the Resource Conservation and Recovery Act, National Environmental Policy Act, Clean Air Act, Clean Water Act, Toxic Substances Control Act, Noise Control Act, Federal Insecticide, Fungicide and Rodenticide Act, Endangered Species Act, Safe Drinking Water Act, Comprehensive Environmental Response, Compensation, and Liability Act ("Superfund"), Superfund Amendments and Reauthorization Act, and Federal Facility Compliance Act; Represent the command on Joint, Defense, and DA staff level environmental policy and study groups; Manage the command Pollution Prevention programs to include the former Hazardous Waste Minimization (HAZMIN) program. Provide pollution prevention information exchange and new prevention initiatives for MSCs/installations/SRAs, to include recycle and reuse programs; Promulgate command National Environmental Policy Act (NEPA) policy, guidance and procedures and provide NEPA policy support for installation planning actions, installation master plans, cultural and natural resources management matters, and for materiel and weapon systems life cycle requirements; Provide center of expertise for environmental analysis documentation in support of BRAC and other real property actions; Provide environmental assessment policy support to MSCs/installations for installation restoration program (IRP), remedial investigations and feasibility studies; Provide staff support and serve as executive secretary for the HQ AMC Environmental Management Action Group (EMAG).

Reference: AMC-R 10-2

Army Material Command Installations & Services Activity

Internet: <http://www.ria.army.mil/isa/mission.htm>
Phone: (309) 782-5180; DSN 793
AMXEN-U... (309) 5946; DSN 793
Fax: (309) 782-7187; DSN 793
AMXEN-U... (309) 7566; DSN 793
Address: Commander
US Army Material Command Installations & Services Activity
ATTN: AMXEN
Rock Island, Illinois 61299-7190
(Environmental Division: AMXEN-U)

Mission/Purpose/Vision: As an AMC Separate Reporting Activity, provides technical staff supervision and command staff management, as directed by (i.e., under operational control of) AMC DCSEHE&IL, over AMC base operations functions through technical oversight and evaluation of programs involving: Construction, operations, maintenance, and management of real property facilities; Installation environmental compliance and natural resources; and Installation logistical support services; Provide total command installation logistics policy implementation, interpretation, and program support for Headquarters AMC. Among others, multimedia environmental compliance management is an area of responsibility.

Reference: Internet

Army Acquisition Pollution Prevention Support Office

Internet: <http://www.aappso.com/>
Phone: (703) 617-2816
Fax: (703) 617-5146
Address: Commander
US Army Materiel Command
ATTN: AMCRDA-TE-E
5001 Eisenhower Avenue
Alexandria, VA 22333-0001

Mission/Purpose/Vision: To support the army Executive Agent for Acquisition Pollution Prevention efforts; provide direct environmental functional support to the Army Acquisition Community, and coordinate with ASA(ILE), PEO and non-PEO programs.

Responsibilities: Manage Acquisition Pollution Prevention efforts in support of the AAE; Serve as SARDA staff for Acquisition Pollution Prevention activities, issues and concerns; Army lead for implementation of Subsection 3-303, EO 12856; Army lead for ODC elimination in weapon systems and facilities

References: - AR 70-1 (Research, Development, and Acquisition: Army Acquisition Policy)

- ASA(RDA) Memorandum, 11 May 92
- ASA(RDA) Memorandum, 6 Dec 93
- AAE Memorandum, 22 Jan 93
- ASA(ILE) Memorandum, 18 Oct 93

US Army Research Laboratory (ARL)

Phone: (301) 394-1600
Fax: (301) 394-5187
Address: Director
US Army Research Laboratory (ARL)
US Army Materiel Command
2800 Powder Mill Road
Adelphi, MD 20783-1197

Mission/Purpose/Vision: The Army Research Laboratory is the Army's primary in-house laboratory whose mission is to execute fundamental and applied research to provide the Army the key technologies and analytical support necessary to assure supremacy in future land warfare. ARL is organized into five primary business areas (ARL Directorates), along with two separate technology activities (ARL Centers): Weapons and Materials Research, Human Research and Engineering, Sensors and Electronic Devices, Survivability/Lethality Analysis, Information Science and Technology, Vehicle Technology Center, and the Corporate Information and Computing Center.

Reference (fax from Angie Levorne, U.S ARL)

US Army Research Office (ARO)

Internet: <http://www.aro.ncren.net/about/>
Phone: (919) 549-0641; DSN 832-0641
Address: Director
U.S. Army Research Office
US Army Materiel Command
P.O. Box 12211
4300 South Miami Boulevard
Research Triangle Park, North Carolina 27707-2211

Mission/Purpose/Vision: to seed scientific and far reaching technological discoveries that enhance Army capabilities. Basic research proposals from educational institutions, nonprofit organizations, and private industry are competitively selected and funded. ARO's research mission represents the most long-range Army view for changes in its technology. It is the only Army organization that transcends all of its mission areas: commander-fire support; close combat; air defense; combat support; combat service support; soldier support; command, control, and communications. In all respects, the ARO program is the designated organization for the entire spectrum of Army activities extending from research to development to acquisition. ARO priorities fully integrate Army-wide, long-range planning for research, development, and acquisition. The roots of research are in the scientific and engineering disciplines, namely aeronautics, biology, chemistry, electronics, geosciences, mathematics, mechanics, metallurgy, physics, and so on. Many innovations are a direct result of fundamental changes in this science base. In recognition of these roots, the ARO program is organized along scientific disciplinary lines. Among others the ARO has several divisions to include the Chemical and Biological Sciences Division and the Engineering and Environmental Sciences Division.

Reference: Internet

U.S. Army Armament Research, Development, and Engineering Center (ARDEC), U.S. Army Tank, Automotive and Armaments Command (TAACOM)

Internet: <http://www.pica.army.mil/ardec/about.html>
Phone: (201) 724-6000
Fax: (201) 724-4637
Address: Commander
U.S. Army Armament Research, Development & Engineering Center
U.S. Army Tank, Automotive and Armaments Command (TAACOM)
Picatinny Arsenal, NJ 07806-5000

Mission/Purpose/Vision: Mission: conduct or manage research, development and life-cycle engineering, including product assurance, in support of items in production and integrated logistics support for assigned armament and munitions systems and materiel; provide procurement and management of initial production quantities and technical

support to soldiers and equipment in the field; maintain a technology base to facilitate the design, development, procurement, production, and life cycle support of assigned materiel or transitioned technologies.

Reference: ARDEC Regulation 10-1, Organization and Functions

Industrial Ecology Center

Phone: (201) 724-2044

Fax: (201) 724-4637

Address: Director

Industrial Ecology Center

ATTN: AMSTA-AR-ET

U.S. Army Armament Research, Development and Engineering Center

Picatinny Arsenal, New Jersey 07806-5000

Mission/Purpose/Vision: MISSION: To manage the U.S. Army Pollution Prevention Environmental Technology Program, the DOD National Defense Center for Environmental Excellence (NDCEE) and the Center for Life-cycle Environmental Technologies. FUNCTIONS: Serve as Program Manager for the National Defense Center for Environmental Excellence (NDCEE). Interpret and execute guidance from higher headquarters; Serve as NDCEE Contracting Officer's Representative in accordance with Letter of Delegation from the Contracting Officer; Serve as Program Director for Center for Life-cycle Environmental Technologies (a joint venture with the New Jersey Institute of Technology) to centralize the research, development, validation, and implementation of life-cycle environmental technologies, costing and tools to support weapon systems development; Manage the U.S. Army Materiel Command (AMC) Environmental Quality Technology Program and the Army Pollution Prevention Environmental Quality Program; Acquire and prioritize AMC environmental RDT&E resources and monitor program execution in response to environmental technology requirements of the materiel development and industrial base communities; Assure the appropriate utilization of the AMC corporate and commodity laboratories in the solution of program technical problems and ensuring that program industrial contractors are fully aware of the technical resources and expertise available in these laboratories; Serve as HQ AMC and other Federal Agencies principal point of contact with the U.S. Army Corps of Engineers on all matters relating to environmental R&D and the Tri-Service Environmental Quality R&D Strategic Plan; Provide technical support to DOD, DA and AMC matrix teams on matters concerning pollution prevention, environmental and energy management practices; Serve as Army Manufacturing Science and Technology (MS&T) Manager for the environmental technology thrust associated with the NDCEE; Serve as the focal point for all ARDEC Pollution Prevention, life-cycle and environmental technology activities; Establish and maintain a working interface with scientific and engineering communities to ensure that all available knowledge is applied to technology programs; Ensure the environment, readiness and economics are considered in the development of technology for future requirements and in corresponding manufacturing processes.

Reference: ARDEC Regulation 10-1, Organization and Functions

Pollution Prevention Environmental Quality Basic Research and Development Program (EQBRD)

IEC manages the AMC's Pollution Prevention Environmental Quality Basic Research and Development Program (EQBRD) which relies heavily on academia, is focused more on theory, and is a vehicle to evaluate the feasibility of early technology concepts.

Pollution Prevention Pillar of the Strategic Environmental Research and Development Program (SERDP)

IEC manages the AMC's Pollution Prevention Pillar of the Strategic Environmental Research and Development Program (SERDP) which differs from the EQBRD in that it represents the next step in the technology maturation process and contains projects that concentrate on the further development of the selected technologies.

National Defense Center Environmental Excellence (NDCEE)

Internet: <http://www.pica.army.mil/org/eto/programs>
Phone: (814) 269-2885
Fax: (814) 269-6485
Address: National Defense Center Environmental Excellence
(NDCEE)
1450 Scalp Avenue
Johnstown, PA. 15904

Mission/Purpose/Vision: To transition environmentally acceptable materials and processes to defense industrial activities and private industry, to provide training that supports the use of new environmentally acceptable technologies, and to support applied research and development, and where appropriate, to transition new technologies. The National Defense Center for Environmental Excellence (NDCEE) was established in 1990 with the directive to "serve as a national leadership organization to address high priority environmental problems for the Department of Defense (DOD), other government organizations and the industrial community." NDCEE is operated by Concurrent Technologies Corporation in Johnstown, PA under contract to the Army managed by the U.S. Army Armament Research, Development and Engineering Center, US Army Materiel Command.

Reference: Internet

U.S. Army Edgewood Research, Development, and Engineering Center

Phone: (410) 671-4411

Fax: (410) 671-2377

Address: Director

U.S. Army Edgewood Research, Development, and Engineering Center

ATTN: SCBRD-ODR-S

Aberdeen Proving Ground, MD 21010-5423

Mission/Purpose/Vision:

FUNCTIONS, HEALTH AND VETERINARY SERVICES: Provide and/or coordinate technical expertise to CBDCOM, AMC, DA, DOD, and other Federal Agencies on health and industrial hygiene matters; Provide and/or coordinate technical support to subordinate CBDCOM elements for resolving health and industrial hygiene matters, as authorized by CBDCOM; Serve as the coordinating focal point with the AMEDD community for obtaining industrial hygiene, occupational health, and other health related consultation or support such as Health Hazard Assessments and Toxicological Assessments; Serve as liaison to the DA Human Use program and provide policy and technical guidance for ERDEC laboratory animal and human use programs and protocols; Serve as the consultant for industrial hygiene (IH) matters, occupational health (OH) issues, health oriented ventilation reviews/guidance, chemical and biological health hazards, industrial respiratory protection requirements, SOP IH/OH reviews, health oriented technical evaluations/investigations, and other health issues; Provide policy, guidance, review, and consultation for these functional areas/issues as required; Serve on the ERDEC Risk Management Board.

FUNCTIONS, ENVIRONMENTAL: Provide technical expertise to CBDCOM, AMC, DA, DOD, and other Federal Agencies on matters concerning the environment; Provide technical expertise to subordinate CBDCOM elements for resolving problems concerning the environment; Formulate and implement the ERDEC Environmental Program consistent with the objectives of the Army Environmental Program; Manage the ERDEC hazardous waste program; Conduct a program to identify facilities and operations that do not meet environmental standards, and provide guidance for improvement and/or modification to minimize environmental risk; Review MCA programs, work orders, and engineering plans and drawings pertaining to the design or modification to ERDEC facilities and equipment to assure that environmental controls and monitoring capabilities are incorporated into the design; Represent the Director, ERDEC, in environmental matters with APG installation, higher headquarters, state, local or other environmental agencies. Review all environmental compliance related correspondence, reports, and permit applications to APGSA, higher headquarters, state, and Federal environmental regulatory agencies to assure information is consistent with CBDCOM policy; Review all contracts and materiel acquisition programs, under development by ERDEC to assure that environmental considerations are addressed on appropriate National Environmental Policy Act, and that environmental impacts are minimized. Identify environmental data gaps; Review for compliance all SOPs, test plans,

and similar documents and participate in pre-operational surveys. Assure that special handling procedures for handling regulated hazardous wastes or priority pollutants are incorporated into procedures where necessary; Manage the ERDEC HAZMIN Program; Develop an adequate training program to assure that environmental requirements are met for personnel involved in hazardous operations; Investigate environmental pollution complaints and accidents; Manage a program of environmental inspections/audits of ERDEC facilities and operations to assess environmental compliance; Manage the Army Environmental Requirements (RCS 1383) for ERDEC; Provide for preparation of National Environmental Policy Act (NEPA) documentation and demil documentation for ERDEC systems developers to support life cycle development of end items in accordance with AR 70-1; Serve on the ERDEC Risk Management Board.

Reference: (Fax from Terry Mann, Environmental Coordinator, ERDEC.)

Other Research, Development, and Engineering Centers (RDECs)

Tank-Automotive Research, Development and Engineering Center (TARDEC)
Natick Research, Development and Engineering Center (NRDEC)

Non-medical Materiel Acquisition Program Managers (possible coordination through AAPPSO)

Each materiel development program is required to assess and consider both health and environmental impacts associated with the manufacture and ultimate use of new or modified equipment. Health concerns are addressed through the Army Health Hazard Assessment (HHA) and the Manpower and Personnel Integration (MANPRINT) programs. The HHA program requires involvement of the medical research community.

References - AR 40-10, Health Hazard Assessment in Support of the Army Material Acquisition Decision Process
- AR 602-2, Manpower and Personnel Integration (MANPRINT) in the Systems Acquisition Process
- AR 70-1, Systems Acquisition Policy
- DOD Instruction 5000.2, Defense Acquisition Management Policies and Procedures

U.S. ARMY MEDICAL COMMAND

US Army Center for Health Promotion and Preventive Medicine (CHPPM)

Internet: <http://chppm-www.apgea.army.mil/chppm.htm>

Phone: (410) 671-2306

Fax: (410) 612-8513

Address: Commander

US Army Center for Health Promotion and Preventive Medicine

5158 Black Hawk Road

Aberdeen Proving Ground, MD 21010-5422

Mission/Purpose/Vision: Mission: Provide Preventive Medicine and Health Promotion Leadership, Direction, and Services for America's Army. Vision: To be a World Class Center of Excellence for Achieving and Maintaining a Fit, Healthy and Ready Force. The organization stands on the threshold of great challenges and responsibilities. It is being totally reorganizing with a provisional structure and obtaining its first General Officer leadership. As it moves into the next century, new programs are being added related to health promotion/wellness, soldier fitness and disease surveillance. As always, its mission focus is centered upon the Army Imperatives so that we are trained and ready to enhance the Army's readiness for war and operations other than war.

Reference: Internet

Office of the Scientific Advisor

Phone: (410) 671-2307

Fax: (410) 612-8513

Address: Commander

US Army Center for Health Promotion and Preventive Medicine

ATTN: MCHB-SA

5158 Black Hawk Road

Aberdeen Proving Grounds, MD 21010-5422

Mission/Purpose/Vision: The Center's scientific advisor serves as the senior consultant to the Commander on all matters of a scientific, technological or programmatic nature for the execution of the multifaceted occupational and environmental health programs at USACHPPM. The Scientific Advisor provides leadership and guidance in formulating comprehensive program plans to provide balanced, timely, and effective execution of the mission services program, and to ensure the general level of science in the Center. The scientific Advisor represents the Commander on technical matters at senior level meetings.

Reference: Internet

Directorate of Laboratory Sciences

Internet: <http://131.92.168.27/dls/dls-006.htm>
Phone: (410) 671-3639
Fax: (410) 671-5047
Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-LLI
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Mission/Purpose/Vision: The mission of the Directorate of Laboratory Science Services as part of the occupational and environmental health assessment process in support of Army readiness. Services include chemical analysis, special projects that involve laboratory sciences, military-unique chemistries, consultation in analytical chemistry, technical document review, analytical training, and quality assurance oversight of analytical chemistry operations and the Department of Defense (DOD) Blood Cholinesterase monitoring program. Support is provided to Army environmental and occupational health programs engaged in health assessment. Many of these are internal to USACHPPM, but support is also extended directly to installations throughout the U.S. and overseas. Other Department of Defense and Federal agencies are supported on a space-available or reimbursable basis.

Reference: Internet

Deputy Chief Of Staff for Operations

Internet: <http://131.92.168.27/dcsops/dcsops.htm>
Phone: (410) 671-4160
Fax: (410) 612-7010
Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-CS-OP
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Mission/Purpose/Vision: The Office of the Deputy Chief of Staff's (ODCSOPS) mission is to provide staff coordination for operational Preventive Medicine readiness planning, mobilization and field training; to provide Preventive Medicine operational and contingency assistance to the war fighting Commander-in-Chief's (CINC's) upon request; to track operational and tactical Preventive Medicine activities worldwide; and to collect, analyze, and archive environmental health threat information and preventive medicine lessons learned.

Reference: Internet

Directorate of Occupational Sciences

Internet: <http://chppm-www.apgea.army.mil/dohsdir.htm>
Phone: (410) 671-4160
Fax: (410) 671-4784
Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-O
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Mission/Purpose/Vision: The Directorate of Occupational Sciences (DOHS) supports the following programs: Health physics, Laser and Optical Radiation Hazards, Medical Safety and Health, Health Hazard Assessment, Radio Frequency and Ultrasound, Entomological Sciences, and Ergonomics Program.
Reference: Internet

Directorate of Toxicology

Internet: <http://chppm-www.apgea.army.mil/dohsdir.htm>
Phone: (410) 612-7388
Fax: (410) 671-4784
Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-T
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Mission/Purpose/Vision: The Directorate of Toxicology has two programs which deal in areas of health and environmental issues. One of our Programs, the Health Effects Research Program, deals primarily with Health Effects and the Environment as they relate to the Center's overall mission of preventive medicine and public health. This program is closely associated with research requirements of the US Army center for Environmental Health Research
Reference: Internet

Directorate of Environmental Health Engineering

Internet: <http://chppm-www.apgea.army.mil/dehedir.htm>
Phone: (410) 671-2306
Fax: (410) 671-8104
Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-E
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Mission/Purpose/Vision: The Directorate of Environmental Health Engineering

(DEHE) is supporting the following programs: Surface Water & Wastewater, Environmental Health Risk Assessment & Risk Communication, Ground Water and Solid Waste, Water Supply Management, Environmental Noise, Hazardous and Medical Waste, and Military Item Disposal Instructions.

Reference: Internet

Direct Support Activities

North

Phone: (301) 677-7403/224
Fax: (301) 661-7132
Address: Commander
US Army Center for Health Promotion and Preventive
Medicine
Direct Support Activity North
Ft Meade, MD 20755-5225

Mission/Purpose/Vision:

South

Phone: (404) 464-3322
Fax: (404) 464-2126
Address: Commander
US Army Center for Health Promotion and Preventive
Medicine
Direct Support Activity SOUTH
1312 Cobb Street SW
Fort McPherson, GA 30330-5000

Mission/Purpose/Vision:

West

Internet: <http://chppm.meis.apgea.army.mil/DSA-West>
Phone: (303) 361-3726
Fax: (303) 361-3920
Address: Commander
US Army Center for Health Promotion and Preventive
Medicine
Direct Support Activity West
US Army Garrison: Fitz Simmons
12101 East Coal Sax Avenue
Building 603-2D
Aurora, Colorado 8045-50001

Mission/Purpose/Vision: To provide health promotion and preventive medicine direct support to installations and units in a 22-state area (including Alaska) of the western United States. Mission: Provide environmental health engineering services to active Army, Army Reserve,

and National Guard units and installations to protect public health and improve soldier readiness. Area supported includes 22 western states from Wisconsin to California and West Texas to Alaska. Commanders Vision: That supported installations and organizations have the ability to provide soldiers for worldwide deployment that are fit, healthy, and prepared to defend against environmental and disease health threats.

Europe

Pacific

***Environmental Health Section, Preventive Medicine Activity, Medical Centers (MEDCENs),
Medical Department Activities (MEDDACs) and Medical Clinics***

North Atlantic Regional Medical Command (NARMC) , Washington, DC

- Walter Reed Army Medical Center , Washington, DC
- Kimbrough Ambulatory Care Center, Fort Meade, Maryland
- Keller Army Community Hospital , West Point, New York
- Andrew Rader U.S. Army Health Clinic , Fort Myer, Virginia
- Womack Army Medical Center, Fort Bragg, North Carolina
 - 44th Medical Brigade, Fort Bragg, North Carolina
- Dewitt Army Community Hospital, Fort Belvoir, Virginia
- Durhan Army Health Clinic, Carlisle Barracks, Pennsylvania
- Guthrie Army Health clinic, Fort Drum, New York
- Ireland Army Community Hospital, Fort Knox, Kentucky
- Kenner Army Hospital Clinic, Fort Lee, Virginia
- Kirk Army Health Clinic, Aberdeen Proving Ground, Maryland
- McDonald Army Community Hospital, Fort Eustis, Virginia
- Patterson Ambulatory Care Center, Fort Monmouth, New Jersey

Southeast Regional Medical Command (SERMC), Fort Gordon, Georgia

- Dwight David Eisenhower Army Medical Center, Fort Gordon, Georgia
- Moncrief Army Community Hospital, Fort Jackson, South Carolina
- Winn Army Community Hospital, Fort Stewart, Georgia
- Martin Army Community Hospital, Fort Benning, Georgia
- Lyster Army Community Hospital, Fort Rucker, Alabama
- Fox Army Community Hospital, Redstone Arsenal, Alabama
- Blanchfield Army Community Hospital, Fort Campbell, Kentucky

Southwest Regional Medical Command (SWRMC), Fort Bliss, Texas

- William Beaumont Army Medical Center, Fort Bliss, Texas
- McAfee Army Health Clinic, White Sands Missile Range, New Mexico
- Bliss Army Community Hospital, Fort Huachuca, Arizona
 - Satellite Clinic, Yuma Proving Grounds, Arizona
- Weed Army Community Hospital, Fort Irwin, California

Northwest Regional Medical Command (NWRMC), Fort Lewis, Tacoma,

Washington

- Madigan Army Medical Center , Fort Lewis, Tacoma, Washington
- Bassett Army Community Hospital, Fort Wainwright, Alaska

Great Plains Regional Medical Command, Fort Sam Houston, Texas

- Brooke Army Medical Center, Ft. Sam Houston, Texas
- Darnall Army Community Hospital, Fort Hood, Texas
- Reynolds Army Community Hospital, Fort Sill, Oklahoma
- Bayne-Jones Army Community Hospital, Fort Polk, Louisiana
- Evans Army Community Hospital, Fort Carson, Colorado
- General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri
- Munson Army Community Hospital, Fort Leavenworth, Kansas
- Irwin Army Community Hospital, Fort Riley, Kansas

Pacific Regional Medical Command (SERMC), Honolulu, Hawaii

- Tripler Army Medical Center, Honolulu, Hawaii

U.S. Army Reserve Brigades and Hospitals

- 807th Medical Brigade, Seagoville, Texas
- 94th Army Reserve General Hospital, Seagoville, Texas
- 810th Field Hospital, Oklahoma City, Oklahoma
- 341st Medical Battalion (EVAC), Mesquite, Texas

U.S. Army Medical Research and Materiel Command (MRMC)

Headquarters

Internet: <http://mrmc-www.army.mil/vision.html>
Phone: (301) 619-7111
Fax: (301) 619-2982
Address: Commander
U.S. Army Medical Research and Materiel Command (MRMC)
504 Scott Street
Fort Detrick MD 21702

Mission/Purpose/Vision: Vision - To Provide world class research and materiel for total quality health care in support of America's war fighter at home and abroad, accessible to the total defense family, accountable to the American people.

References: Internet

Research Program Directorate (RPD) - Army Operational Medicine

Internet: <http://mrmc-www.army.mil/opsmed.html>

Phone (301) 619-7301

Fax: (301) 619-2416

Address: Commander

U.S. Army Medical Research and Materiel Command (MRMC)
Research Program Directorate III
ATTN: MCMR-PLC
504 Scott Street
Fort Detrick, MD 21702-5012

Mission/Purpose/Vision: The Army operational medicine is founded upon a unique knowledge base of the soldier as a medical/biological system with limitations, tolerances, and capabilities. Integrated with military doctrine, policy, and practice, and supported by a modeling capability responsive to the full range of likely operational circumstances, the program identifies, characterizes, and prioritizes sources of challenge to the soldier, seeking to mitigate their individual and collective operational impact.

References: - Internet

- Pamphlet (undated), *U.S. Army Medical Research and Materiel Command*

U.S. Army Center for Environmental Health Research

Phone: (301) 619-2024

Fax: (301) 619-7606

Address: Director

U.S. Army Center for Environment Health Research
568b Doughton Drive
Fort Detrick, MD 21702-5010

Alternate: Director

U.S. Army Center for Environment Health Research
Center for Environmental Toxicology
Colorado State University
Foothills Campus, Rampart Road
Fort Collins, CO 80521

Mission/Purpose/Vision: Conducts basic and applied research to measure and predict health and medical consequences to humans posed by contamination of the environment by industrial chemicals alone and in combination with other factors. The USACEHR invents, develops, evaluates, validates and integrates health hazard and risk assessment information, methodologies, and hardware. Products from these efforts assist preventive medicine units in monitoring and protecting US forces and indigenous populations before, during, and after deployment. These products may be used by the DOD and other Federal and nonFederal

agencies in monitoring and evaluating environmental contamination nationally and internationally. USACEHR is developing an integrated, interdisciplinary, bioassessment approach for the evaluation of the human health effects of chemical contamination of the environment. This program consists of medical RDT&E funding for "Deployment Toxicology" and reimbursable funding from the US Army Corps of Engineers (USAGE) for research on hazard assessment methods to be used in environmental remediation and compliance. The environmental media of interest include water, sediments, soil and air. The research involves the identification, development, validation and application of environmental sentinels and non-mammalian models for the assessment of human health hazards. The research has both basic and applied components. An USACEHR-developed mobile laboratory complex provides an in-field capability for method application testing. The mobile labs consist of a sophisticated analytical chemistry module, a biomonitoring exposure module and an administrative support module. Research is being pursued in collaboration with a variety of DOD and non-DOD partners. USACEHR is currently participating with the Navy and the Armed Forces Medical Intelligence Center to develop strategic plans for the execution and application of toxicology research for DOD purposes. Interagency agreements exist between the USACEHR and the National Institute of Environmental Health Sciences, the US Environmental Protection Agency, and the US Department of Interior for the purpose of coordinating research of joint interest and respective investments and capabilities of the respective agencies. Peer reviewed proposals to the USAMRMC Broad Agency Announcement are supported principally in the basic research arena. The USACEHR has also signed a Cooperative Research and Development Agreement with the Colorado State University Center for Environmental Toxicology and Technology facilitating access to extensive research assets at this University through very cost-efficient mechanisms.

References: - fax

- INFORMATION PAPER, MCMR-UBZ, 11 June 1996,
subject: Research at the US Army Biomedical R&D Laboratory
(USABRDL)

U.S. Army Research Institute of Environmental Medicine (USARIEM)

Internet: <http://www-sscom.army.mil/usariem/ariems.htm>

Phone: (508) 233-4811

Fax: (508) 233-5298

Address: Commander

U.S. Army Research Institute of Environmental Medicine
(USARIEM)

Natick, MA 01760-5007

Mission/Purpose/Vision: To protect sustain and maximize the health and

performance of individual military personnel, crews and troop populations through the conduct of basic and applied research programs in environmental and occupational medicine; to understand how soldiers react military environmental and occupational stresses and to devise protective and therapeutic materiel and doctrinal solutions. Factors in the military environment studied include environmental extremes (heat, cold, and altitude), physical training, military work, nutritional and occupational stresses of military training and operations. The USARIEM assists the U.S. Army Natick Research, Development and Engineering Center in the development of rations, clothing, chemical defense protective gear, and other equipment by assessing the physiological effects of these items under extreme climatic conditions. The institute also provides technical, advisory, and consultant services to Army commanders, installations, and activities.

Reference: - Internet

- Pamphlet (undated), *U.S. Army Medical Research and Materiel Command*

U.S. Army Medical Research Institute of Chemical Defense (USAMRICD)

Internet: <http://chemdef.apgea.army.mil/>

Phone: (410)-671-3276; DSN 584

Fax: (410) 671-1960; DSN 584

Address: Commander

U.S. Army Medical Research Institute of Chemical Defense
3100 Ricketts Point Road
Aberdeen Proving Ground, MD 21010-5425

Mission/Purpose/Vision: USAMRICD is the nation's lead laboratory for research to advance the medical prevention and treatment of chemical warfare casualties. The Institute also has a clinical training mission and conducts the Medical Management of Chemical Casualties Course for health care providers from all armed services.

Reference: Internet

U.S. Army Medical Research Institute of Infectious Disease (USAMRIID)

Internet: <http://140.139.42.101/biodef.html>

Phone: (301) 619-2024

Fax: (301) 619-7606

Address: Commander

U.S. Army Medical Research Institute of Infectious Disease
US Army Medical Research and Materiel Command
Fort Detrick MD 21702-5012

Mission/Purpose/Vision: This program develops medical countermeasures and diagnostic products against biological warfare (BW) threats such as microbial agents and toxins. The goals of this research program are to ensure the sustained

effectiveness of U.S. forces in a BW environment and deter the use of these of these weapons by maintaining a strong medical defensive posture.

Reference:

Walter Reed Army Institute of Research (WRAIR)

Phone: (202) 576-3551

Address: Commander

Walter Reed Army Institute of Research (WRAIR)

Washington, DC 20307-5100

Mission/Purpose/Vision: Biomedical research focused on soldier health and readiness. WRAIR is the largest of six medical research laboratories under the U.S. Army Medical Research and Materiel Command (USAMRMC). WRAIR receives funding from four USAMRMC Research Program Directors (RPD): Military Infectious Diseases (RPD 1), Combat Casualty Care (RPD 2), Army Operational Medicine (RPD 3), and Medical Chemical/Biological Defense (RPD 4). Research at WRAIR is divided into 12 divisions: Biochemistry, Communicable Diseases and Immunology, Experimental Therapeutics, Medicine, Neuropsychiatry, Neuroscience, Pathology, Preventive Medicine, Retrovirology, Surgery, Veterinary Medicine, and the U.S. Army Dental Research Detachment. WRAIR operates 4 Special Foreign Activities (SFA): U.S. Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand; U.S. Army Medical Research Unit, Brazil (Rio De Janeiro); U.S. Army Medical Research Unit, Kenya (Nairobi); and the U.S. Army Medical Research Unit, Europe (Heidelberg). WRAIR also manages co-located research programs at Tri-Service Laboratories: Laser and Microwave bioeffects, Armstrong Laboratory, Brooks Air Force Base, Texas; Combat Dentistry, Navy Dental Research Institute, Great Lakes Naval Base, Illinois; Occupational Health (Toxicology) at Wright-Patterson Air Force Base, Ohio.

Reference: Internet

U.S. Army Medical Research Detachment (WRAIR), Tri-Service Toxicology Consortium

Internet:

Phone: (937) 255-0608; DSN 785

Fax: (937) 656-7599; DSN 785

Address: Commander

U.S. Army Medical Research Detachment (WRAIR), Tri-Service
Toxicology Consortium

2800 Q Street

Wright-Patterson Air Force Base, OH 45433-7947

Mission/Purpose/Vision: Provide the Department of Defense and other customers with timely solutions to current and anticipated and operational

problems through an integrated approach to innovative human health effects toxicology research. Vision: Tri-Service Toxicology will be an integral asset within the Department of Defense as the center of excellence for toxicology research solving the challenges of today and anticipating those of the future. Goals: Minimize the health risks and mission impact from exposures to hazardous chemicals encountered by Department of Defense personnel; Reduce the adverse environmental consequences of the use and disposal of hazardous materials by the Department of Defense; and Significantly decrease the life cycle costs required to protect human health and the environment.

Reference: Brochure

Medical Materiel Acquisition Program Managers

Each materiel development program is required to assess and consider both health and environmental impacts associated with the manufacture and ultimate use of new or modified equipment. Health concerns are addressed through the Army Health Hazard Assessment (HHA) and the Manpower and Personnel Integration (MANPRINT) programs. The HHA program requires involvement of the medical research community.

References: - AR 40-10, Health Hazard Assessment in Support of the Army Material Acquisition Decision Process
- AR 602-2, Manpower and Personnel Integration (MANPRINT) in the Systems Acquisition Process
- AR 70-1, Systems Acquisition Policy
- DOD Instruction 5000.2, Defense Acquisition Management Policies and Procedures

U.S. Army Medical Center and School (AMEDDC&S)

Internet: <http://www.cs.amedd.army.mil/>
Phone: (210) 221-8036/8659; DSN: 471-8036/8659
Fax:
Address: Commander
U.S. Army Medical Center and School (AMEDDC&S)
Fort Sam Houston, TX 78234

Mission/Purpose/Vision: The AMEDDC&S is responsible for training the Army's medical personnel along with select personnel from our other services to include visiting foreign military students. A part of this training includes environmental quality and health Issues. Most students attending AMEDDC&S are required to take a class in environmental awareness. Other classes such as our Preventive Medicine Specialist Course and Military Preventive Medicine Course incorporate much greater detail in environmental science. Instruction in environmental issues include an overview of DOD and Army environmental programs and regulations, environmental health, epidemiology, water and

wastewater quality, solid and hazardous waste, chemical hazards, occupational health, industrial hygiene, radiological hazards, medical entomology, and pesticide management. The Department of Preventive Health Services has overall responsibility for environmental health related instruction. Within the Department of Preventive Health Services, courses are taught and administered by the Community Health Practices Branch, Medical Zoology Branch, Nuclear, Biological & Chemical Science Branch, and Environmental Quality Branch. The AMEDDC&S utilizes various resources to include the Center of Health Promotion and Preventive Medicine (CHPPM) and U.S. Army Engineer School (USAES) to update and integrate environmental awareness as well as technical information into the AMEDDC&S courses. Also the AMEDDC&S works with USAES to insure environmental health issues are incorporated into the TRADOC military schools.

Reference: Memorandum, MCCS-HP, dated 2 December 1997, subject: Academy Of Health Sciences Center and School Environmental Health Mission

U.S. ARMY TRADOC

Commander
U.S. Army Training and Doctrine Command
ATTN: ATCG
Fort Monroe, VA 23651-5000

Environmental Division

Phone: (757) 727-3300
Fax: (757) 727-2362
Address: Commander
U.S. Army Training and Doctrine Command
Environmental Division
ATTN: ATBO-SE
Bernard Street
Building 5A, Room 301,
Fort Monroe, VA 23651-5000

Office of the Command Surgeon

Phone: (757) 727-2226
Fax: (757) 727-2962
Address: Commander
U.S. Army Training and Doctrine Command
Office of the Command Surgeon
ATTN: ATMD
Fort Monroe, VA 23651-5000

The Army Logistics Management College (ALMC)

Internet: <http://www.almc.army.mil/ORGNZATN/OFFCMDT/Commndnt.htm>
Phone: (804) 765-4526/4803/4122 (DSN is 539/4803)
Address: Commandant
US Army Logistics Management College (ALMC)
Fort Lee, VA 23801

Mission/Purpose/Vision: The Army Logistics Management College (ALMC) conducts environmental training associated with base operations, logistics, and acquisition. ALMC environmental courses focus on the needs of the "white collar" workforce. The College offers 13 environmental management courses of importance to personnel working in installation environmental offices, logistics offices, procurement offices, and other installation offices with environmental requirements. ALMC also provides technical oversight for *CEIHOT*.

Center for Environmental Initiatives and Hands-On-Training (CEIHOT)

Phone: (405) 442-2111; DSN 639

Fax: (405) 442-7209; DSN 639
Address: Commander
US Army Field Artillery Center and Fort Sill
ATTN: ATZR-BT
Center for Environmental Initiatives and Hands-On-Training (CEIHOT)
Fort Sill, Oklahoma 73503-5100

Mission/Purpose/Vision: Develops and provides installation level "hands-on" training to assist personnel in meeting specific regulatory compliance requirements. CEIHOT courses benefit both "blue-collar" and "white-collar" personnel. The Center offers courses in the handling of hazardous materials and hazardous wastes, asbestos abatement, lead paint abatement, spill response, wastewater treatment. All courses in these environmental compliance areas are available through the Army Training Resource and Requirement System (ATTRS). Additionally, CEIHOT offers hands-on training in other environmental areas.

U.S. Army Engineer School, Environmental Doctrine and Training Products

Internet: <http://www.wood.army.mil/FLW/school.htm>
Phone: (573) 563-7797
Fax: (573) 563-4001
Address: Commandant
U.S. Army Engineers School
Environmental Doctrine and Training Products
Fort Leonard Wood, Missouri 65473

Mission/Purpose/Vision: Within TRADOC, the Army Engineer School (AES), located at Fort Leonard Wood, is responsible for developing environmental training for incorporation into military occupational specialties (MOSs). Once the AES completes a training program for a specific MOS, the AES transfers the program to the appropriate schoolhouse. For example, MOS 77F (Fuel Handlers) contains specific environmental objectives and concerns. The environmental training component for this MOS ensures that fuel handlers minimize soil and water contamination from improper use and storage of fuels.

U.S. ARMY CORPS OF ENGINEERS

Headquarters U.S. Army Corps of Engineers

Internet: <http://www.job.web.org/employer/usarmy.htm>
Phone: (202) 761-0660
Fax: (202) 761-1373
Address: Commander
U.S. Army Corps of Engineers(USACE)
20 Massachusetts Avenue, N.W.
Washington, DC 20314-1000

Mission/Purpose/Vision: The Corps of Engineers has played a vital role in both military engineering and meeting America's civilian infrastructure needs. It has four major research and development centers. A sampling of the type of research performed at these labs includes coastal engineering, flood control, navigation, environmental quality, water resource planning, surveying and remote sensing, topographic sciences, pollution prevention, and magnetic levitation. The Corps also serves the nation as one of the leading federal agencies to bring relief to victims of natural disasters such as floods, hurricanes and earthquakes. The Corps of Engineers is responsible for the stewardship of 11.7b million acres of Federal Land and water located at more than 460 water resources projects in 43 states.

Engineers Strategic Studies Center

Internet: <http://www.usace.army.mil/essc/index.htm>
Phone: (202) 761-4761
Fax: (202) 761-1500
Address: Commander
U.S. Army Corps of Engineers(USACE)
Engineers Strategic Studies Center
Room 8104
20 Massachusetts Avenue, NW
Washington DC 20314

Mission/Purpose/Vision: ESSC is an in-house asset that supports the Chief of Engineers with strategic and pragmatic problem analysis. ESSC's primary functions are to facilitate planning and partnership building, do studies and analysis, develop briefings and issue papers and assist the command to integrate major initiatives. The Center uses expertise in facilitation, management science, operations research and systems analysis to address strategic engineers and engineer related issues. The Center is small, but leverages its size by maximizing "third wave" information technology. ESSC's activities are resourced partly through direct funding in the Chief of Engineers budget and partly through reimbursable funding from project sponsors.

Baltimore District Environmental Services

Internet: <http://www.nab.usace.army.mil>
Phone: (410) 962-4661
Fax: (410) 962-7736
Address: U.S. Army Corps of Engineers(USACE)
Baltimore District Environmental Services
ATTN: Eng Div
P.O. Box 1715
Baltimore, MD 21203-1715

Mission/Purpose/Vision: The basic mission of the Baltimore District is to provide quality responsive engineering design and construction service to the nation in peace and during war. We also provide our customers quality infrastructure, facilities, regulatory, real estate, water resources contracting, and environmental products and services. Baltimore District provides environmental cultural compliance support to military installations and many government agencies, such as the Environmental Protection Agency, Department of Energy, Federal Aviation Administration, Defense Logistics Agency, as well as other Corps Districts.

U.S. Army Environmental Training Support Center, Huntsville Division

Internet: <http://www.hnd.usace.army.mil/etsc/etscdf.html>
Phone: (205) 895-7408
Fax: (205) 895-7478
Address: Commander
U.S. Army Engineering Training Support Center
Huntsville Division
U.S. Army Corps of Engineers
ATTN: CEHR-P-ET
PO Box 1600
Huntsville, Alabama 35807-4301

Mission/Purpose/Vision: The Department of the Army established the Environmental Training Support Center (ETSC) in July 1992 to support the Army Environmental Center in conducting training needs analysis to identify the deficiencies in the Army environmental training program, making recommendations for developing or revising current environmental training programs, and developing or revising courses to meet the present and future environmental training need. The ETSC also maintains a resource center of environmental training information.

Reference: Internet

Environmental Management Program, North Central Division

Internet: <http://www.usace.army.mil/ncd/emp.htm>
Phone: (312) 353-6320
Fax: (312) 352-5233
Address: U.S. Army Corps of Engineers
Environmental Management Program
North Central Division
111 North Canal Street
Chicago, ILL 60606-7205

Mission/Purpose/Vision: This \$20 million-per-year program is the largest of its type in the Corps. Every year, an average of three projects are being built in the NCD region. It is a departure from traditional Corps navigation and flood control activities, as its sole purposes to restore fish and wildlife habitat along the Upper Mississippi and Illinois rivers. It is a unique example of a working partnership between federal agencies (the Corps and the U.S. Department of Interior), the five States (Illinois, Iowa, Minnesota, Missouri and Wisconsin), and between state and federal agencies. This program, which includes a long-term monitoring of river resources to track and understand ecological change, is helping to preserve and enhance the Upper Mississippi-Illinois river environment.

Reference

Defense Environmental Restoration and Formerly Used Defense Site (FUDS) Programs, Rock Island District

Internet: <http://www.nab.usace.army.mil/environmental/fdefsite.htm>
Phone: (309) 794-6080
Fax: (309) 794-6050
Address: US Army Corps of Engineers
Defense Environmental Restoration and Formerly Used Defense Site
(FUDS) Programs, Rock Island District
ATTN: ED-DO
PO Box 2004
Rock Island, IL 61204-2004

Mission/Purpose/Vision: The Department of Defense is committed to correcting environmental damage caused by its activities. The Defense Environmental Restoration Program is the vehicle to accomplish this, and the cleanup of Formerly Used Defense Sites is a part of this program. Headquarters, U.S. Army Corps of Engineers is DOD's manager for the FUDS program. They provide policy and funds to local Corps' divisions and districts to perform FUDS cleanup. Two important laws established the Defense Environmental Restoration Program. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, and the Superfund Amendments and Reauthorization Act (SARA) of 1986, gave DOD the authority for certain cleanup at former DOD sites in the United States and its territories.

US Army Engineer Waterways Experiment Station (WES)

Internet: <http://www.ortge.ufl.edu/fyi/v23n14/fyi052.html>
Phone: (601) 634-2664
Fax: (601) 634-2388
Address: US Army Corps of Engineers
Waterways Experiment Station (WES)
3909 Halls Ferry Road
Vicksburg, Mississippi 39180-6199

Mission/Purpose/Vision: WES is responsible for conducting basic research in the broad fields of hydraulics, rehabilitation of hydraulic structures, coastal engineering, instrumentation, oceanography, remote sensing, earthquake engineering, soil dynamics, concrete, expedient construction, nuclear and chemical explosion effects, vehicle mobility, self contained munitions, military hydrology, fixed installation camouflage, environmental impact, environmental engineering, geophysics, pavements, protective structures, aquatic plants, water quality, dredged material, computer science, telecommunications management and business automation, graphic arts and printing, library services, and recordsmanagement.

Reference: Internet

Environmental Laboratory/Wetlands Research and Technology Center

Internet: <http://www.wes.army.mil/EL/wrtc/wrtc.html>
Phone: (601) 634-2733
Fax: (601) 634-3664
Address: US Army Corps of Engineers
Environmental Laboratory & Wetlands Research and Technology
Center
3909 Halls Ferry Road
Vicksburg, Mississippi 39180-6199

Mission/Purpose/Vision: The WRTC consolidates administrative, technological, and research skills available training, and interagency coordination efforts and responds to anyone seeking answers to wetlands related questions. Capabilities: Through the WRTC, the expertise of scientists and engineers who work in the areas of ecology, hydraulics, hydrology, chemistry, geology, physics, computer science, biology, forestry, archeology, and many other fields is available to solve wetlands problems. The WRTC supports a holistic, interdisciplinary approach to the stewardship of resources entrusted to the care of the Corps.

Reference: Internet

Strategic Environmental Research and Development Program

Internet: <http://www.hgl.com/serdp/>
Phone: (703) 696-2121
Fax: (703) 696-2114
Address: US Army Corps of Engineers
Strategic Environmental Research and Development Program
901 North Stuart Street
Suite 303
Arlington, VA 22230

Mission/Purpose/Vision: The Strategic Environmental Research and Development Program is the Department of Defense's (DOD) corporate environmental R & D program, planned and executed in full partnership with the Department of Energy (DOE) and the Environmental Protection Agency (EPA), with participation by numerous other federal and non-federal organizations. Within its broad areas of interest, the program focuses on Cleanup, Compliance, Conservation, and Pollution Prevention Technologies.

U.S. Army Corps of Engineers Construction Engineering Research Laboratories (USACERL)

Internet: <http://www.cecar.army.mil/mission.html>
Phone: (217) 373-7201
Fax: (217) 373-7222
Address:: US Army Corps of Engineers
U.S. Army Corps of Engineers Construction Engineering Research
Laboratories (USACERL)
PO Box 9005
Champaign, IL 61826-9005

Mission/Purpose/Vision: The U.S. Army Construction Engineering Research Laboratories (CERL) is the lead laboratory in the Army for Research to support sustainable military installations. CERL's research is directed towards increasing the Army's ability to more efficiently construct, operate, and maintain its installations and ensure environmental quality and safety at a reduced life-cycle cost. Excellent facilities support the army's training, readiness, mobilization, and sustainability missions. An adequate infrastructure and realistic training lands are critical assets to installations, which serve as platforms to project power worldwide. There are four laboratories within CERL: Planning and Management, Utilities and Industrial Operations, Land Management, and Facilities Technology.

Reference: Internet

Omaha District Corps of Engineers

Mission/Purpose/Vision: Site Remediation

JOINT SERVICE AND DOD ORGANIZATIONS

These are organizations that perform services in support of the US Army and/or do not have a corresponding Army-level Agency

Office of the Deputy Under Secretary of Defense for Environmental Security

Internet: <http://www.acq.osd.mil/ens>
Phone: (703) 695-6639
Fax: (703) 693-7011
Address: Office of the Deputy Under Secretary of Defense for Environmental Security
3400 Defense Pentagon
Washington, DC 20301-3400

Mission/Purpose/Vision: DOD's Environmental Security Program fulfills four overriding and interconnected goals: to comply with the law; to support the military readiness of the U.S. armed forces by ensuring continued access to the air, land, and water needed for training and testing; to improve the quality of life for military personnel and their families by protecting them from environmental, safety, and health hazards and maintaining quality military facilities; and to contribute to weapon systems that have improved performance, lower cost, and better environmental characteristics.

Defense Supply Center, Defense Logistics Agency (DLA) (Hazardous Material Information System)

Internet: <http://www.acq.osd.mil/ens/>
Phone: (804) 279-4537
Fax: (804) 279-4194
Address: Defense Supply Center
Defense Logistics Agency (DLA)
(Hazardous Material Information System)
ATTN: DSCR-VB
8000 Jefferson Davis Highway
Richmond, VA 23297-5000

Mission/Purpose/Vision: Defense Supply Center Richmond (DSCR) is dedicated to provide customers world-class products and services. Their challenge is to do this "When they want it" providing it to the customers "At the best value," meeting or exceeding established standards of quality at a fair and reasonable price. DSCR must be a customer driven organization. Its customers are activities of the Army, Marine Corps, Navy, Air Force and DOD Dependent Schools. They also support other government agencies such as the Veteran's Administration Medical Centers; U.S. Forestry Service; General Service Administration; and Department of Energy, Transportation and Commerce.

Hazardous Technical Information Services (HTIS), Defense Supply Center

Internet: <http://www.dscr.dla.mil/htis/htis.htm>
Phone: (804) 279-4537
Fax: (804) 279-4194
Address: Hazardous Technical Information Services (HTIS)
Defense Supply Center, Richmond
ATTN: DSCR-VBC
8000 Jefferson Davis Highway
Richmond, VA 23297-5000

Mission/Purpose/Vision: The Hazardous Technical Information Services (HTIS) is a service of the Defense Logistics Agency located at the Defense Supply Center Richmond (DSCR), Richmond, Virginia. Their goal is assisting the DOD community with a Help line Answer Service as well as with a Technical Bulletin concerning the compliant management of hazardous materials and wastes.

Reference: Internet

Joint Group on Acquisition Pollution Prevention (JG-APP)

Joint Pollution Prevention Advisory Board (JPPAB)

Internet: <http://es.inel.gov/new/contacts/newsletters/army/armynew8.html>
Phone: (703) 617-2818; DSN 767-2818
Fax: (703) 274-5146
Address: Joint Pollution Prevention Advisory Board
(Joint Group on Acquisition Pollution Prevention)
Headquarters, U.S. Army Material Command
ATTN: AMCRD-E (Mr. Garcia-Baco)
5001 Eisenhower Avenue
Alexandria, Virginia 22333-0001

Mission/Purpose/Vision: The Joint Logistics Commanders have agreed to establish a Joint Group on Acquisition Pollution Prevention. The Joint Group will be composed of Command Flag Officers/ Directors from the Army, Navy, Air Force, Marine Corps, and the Defense Contract Management Command (DCMC) responsible for acquisition pollution prevention matters within their services Acquisition Communities. The group will coordinate joint service pollution prevention matters identified during a weapons system's acquisition process with the implementation of pollution prevention opportunities identified at contractors' manufacturing locations, and interface with industry on pollution prevention initiatives. It will interface with industry via DCMC's Process Oriented Contract Administration Services (PROCAS). In accordance with JGAPP charter, the joint pollution prevention advisory board (JPPAB) was formally chartered in 1995. The Advisory Board provides technical and programmatic support to the JGAPP and manages, coordinates, and executes tasks in the JGAPP's Action plan. Board members are responsible for coordinating all the activities within their respective services and for identifying required resources. U.S. Army Material Command

AMCRD-E is the US Army representative on the advisory board.

Armed Forces Medical Intelligence Center (AFMIC)

Phone: (301) 619-7511

Fax: (301) 619-2409

Address: Commander

Armed Forces Medical Intelligence Center (AFMIC)

1607 Porter Street

Fort Detrick, MD 21702-5004

Mission/Purpose/Vision: As a Defense Intelligence Agency (DIA) organization, AFMIC produces medical intelligence data bases and assessments on a wide range of subjects including foreign military and civilian health care, infectious disease occurrence, environmental health risk factors on a global scale, and life science technologies. In the areas of epidemiology and environmental health, AFMIC provides current medical intelligence focusing on those infectious diseases and environmental health factors that could degrade the effectiveness of military forces deployed to foreign countries.

Reference: fax

Uniformed Services University of the Health Sciences (USUHS)

Internet: <http://www.usuhs.mil/>

Phone: (301) 295-9773

Fax: (301) 295-3434

Address: Uniformed Services University of the Health Sciences (USUHS)

Department of Preventive Medicine and Biometrics

Division of Environmental and Occupational Health

4301 Jones Bridge Road

Bethesda, MD 20814-4799

Mission/Purpose/Vision: Mission: is the Nation's federal health sciences university and is committed to excellence in military medicine and public health during peace and war; provides the Nation with health professionals dedicated to career service in the Department of Defense and the United States Public Health Service and with scientists who serve the common good; serves the uniformed services and the Nation as an outstanding academic health sciences center with a worldwide perspective for education, research, service, and consultation, and is unique in relating these activities to military medicine, disaster medicine, and military medical readiness.

Reference: brochure

Deputy Assistant Secretary of Defense for Peacekeeping and Humanitarian Assistance

Phone: (703) 695-2322

Fax: (703) 614-1679

Address: Deputy Assistant Secretary of Defense for Peacekeeping and
Humanitarian Assistance
Department of Defense
2900 Defense Pentagon (Room 4B704)
Washington DC 20301-2900

Mission/Purpose/Vision: The Office of the Deputy Assistant Secretary of Defense for Peacekeeping and Humanitarian Assistance (ODASD [PK/HA]) is responsible for the development of Defense Policies, programs, positions, plans, and procedures. These responsibilities include serving as the primary policy advisor on these issues; monitoring DOD resources for peacekeeping operations and managing humanitarian and overseas disaster relief funds; developing a strategy for DOD assistance to international peacekeeping operations and humanitarian crises; analyzing major policy recommendations regarding the provision of support; Coordinating interagency and intergovernmental positions; serving on various interagency committees, councils and boards; representing DOD in formal and informal meetings; and maintaining Congressional liaison and presenting testimony to Congress regarding DOD's activities in support of international peacekeeping and humanitarian assistance efforts.

Reference: fax

OTHER ORGANIZATIONS OR PROGRAMS OF POSSIBLE INTEREST

National Research Council Committee on Toxicology (COT)

Address: National Research Council Committee on Toxicology (COT)
Director, Committee on Toxicology
Board on Environmental Studies and Toxicology
National Research Council
2101 Constitution Avenue, N.W.
Washington, DC 20418

Mission/Purpose/Vision: As part of the Board on Environmental Studies and Toxicology (BEST) of the National Research Council's Commission on Life Sciences, COT's missions are to provide advice to its sponsoring agencies (primarily the U.S. Army, U.S. Navy, U.S. Air Force, and NASA) on toxicologic matters, to serve as an information clearinghouse, to identify information gaps, and to recommend research that can help solve toxicologic problems. COT's specific responsibilities to its sponsoring agencies include the following: responding to questions of broad scientific policy asked by sponsors; making interim recommendations on allowable concentrations of contaminants for emergency and continuous exposure; recommending the performance of toxicologic and other scientific research; and providing advice on field studies conducted by a sponsor and, upon request, assisting in the interpretation of the results of the studies.

Reference: *Four Decades of Scientific Service, The Committee on Toxicology*, National Research Council, National Academy Press (Undated Pamphlet)

**Appendix
F**
Strategic Distribution List

Strategic Distribution List

DEPARTMENT OF THE ARMY

Office of the Assistant Secretary of the Army (Manpower and Reserve Affairs) (MRA)

Address: Office of the Assistant Secretary (Manpower and Reserve Affairs)
The Pentagon Room 2E594
Washington DC 20310

The Assistant Secretary of the Army (Research, Development & Acquisition) (ASA(RDA))

Address: Headquarters
Department of the Army
The Assistant Secretary of the Army
Research, Development & Acquisition (ASA(RDA))
103 Army Pentagon
Washington DC 20310-0103

The Assistant Secretary of the Army (Civil Works) (ASA(CW))

Address: Headquarters
Department of the Army
The Assistant Secretary of the Army Civil Works (ASA(CW))
108 Army Pentagon
Washington, DC 20310-0108

US Army Cost and Economic Analysis Center (USACEAC)

Address: US Army Cost and Economic Analysis Center
ATTN: SFFM-CA-CB
5611 Columbia Pike
Falls Church, VA 22041-5050

Assistant Secretary of the Army (Installations, Logistics, and Environment) (ASA(IL&E))

Address: Headquarters
Department of the Army
Assistant Secretary of the Army
Installations, Logistics, and Environment (ASA (IL&E))
110 Army Pentagon
Room 2E577
Washington DC 20310-0110

U.S. Army Environmental Policy Institute (AEPI)

Address: Director
U.S. Army Environmental Policy Institute (AEPI)
430 Tenth Street, NW
Suite S-206
Atlanta, GA 30318-5768

Deputy Assistant Secretary of the Army for Environment, Safety & Occupational Health

Address: Department of the Army
Deputy Assistant Secretary of the Army
Environment, Safety & Occupational Health
110 Army Pentagon
Room 2E577
Washington DC 20310-0110

U.S. Army Environmental Center

Address: Commander
U.S. Army Environmental Center
Aberdeen Proving Ground, MD 21010-5401

Office of Assistant Chief of Staff for Installation Management (ACSIM) (Environmental Programs)

Address: Headquarters
Department of the Army
Office of Assistant Chief of Staff for Installation Management (ACSIM)
ATTN: DAIM-ED (Environmental Programs)
600 Army Pentagon
Washington DC 20310-0600

Office of Director of Environmental Programs (ODEP)

Address: Department of the Army
Office of Director of Environmental Programs (ODEP)
600 Army Pentagon

Army Safety Office

Address: Headquarters
Department of the Army
The Director of Army Safety
ATTN: DACS-SF (Army Safety Office)
200 Army Pentagon
Washington, DC 20310-0200

Army Safety Center

Address: Commander
US Army Safety Center
ATTN: CSSC-Z
Building 4905, 5th Avenue
Fort Rucker, AL 36362-5363

Office of the Surgeon General

Address: Headquarters
Department of the Army
Office of the Surgeon General
Health Services Directorate
ATTN: DASG-HSZ (Preventive Medicine)
5109 Leesburg Pike
Falls Church, VA 22041-3258

The Deputy Chief of Staff for Operations and Plans (DCSOPS)

Address: Headquarters
Department of the Army
The Deputy Chief of Staff for Operations and Plans (DCSOPS)
400 Army Pentagon
Room 3E636
Washington, DC 20310-400

The Chief, Army Reserve (CAR)

Address: Headquarters
Department of the Army
The Chief, Army Reserve (CAR)
1815 North Fort Meyer Drive
Room 210
Arlington VA 22209

The Director, Army National Guard (ARNG)

Address: The Director, Army National Guard (ARNG)
Headquarters
Department of the Army
2500 Army Pentagon
Washington, DC 20310-2500

Strategic Studies Institute, US Army War College

Address: Department of the Army
US Army War College
Strategic Studies Institute
122 Forbes Avenue
Carlisle Barracks, PA 17013-5244

U.S. ARMY EUROPE & SEVENTH ARMY

Office of the Deputy Chief of Staff, Engineer- Environmental Division

Address: Headquarters
US Army Europe and 7th Army
Office of the Deputy Chief of Staff, Engineer
Environmental Division
ATTN: AEAEN-EH-ENV
Campbell Barracks
Heidelberg, Germany APO AE 09014

Office of the Command Surgeon

Address: Headquarters
US Army Europe and 7th Army
Office of the Command Surgeon
Campbell Barracks
Heidelberg, Germany APO AE 09014

EIGHTH ARMY

Assistant Chief of Staff for Engineering, Environmental Program Office

Address: Headquarters
Eighth US Army
Assistant Chief of Staff for Engineering
Environmental Program Office
ATTN: AEAEN-EH-ENV
APO AP 96205-0009

18th Medical Command, Chief of Preventive Medicine Services (PM)

Address: Headquarters
Eighth US Army
Office of the Command Surgeon
18th Medical Command, Chief of Preventive Medicine
APO AP 96205-0009

U.S. ARMY FORCES COMMAND

Environmental Office

Address: Commanding General
US Army Forces Command
Personnel and Installation Management
ATTN: AFPI-ENE
1777 Hardee Avenue, SW
Fort McPherson,, GA 30330-1062

Office of the Command Surgeon

Address: Commanding General
US Army Forces Command
Office of the Command Surgeon
ATTN: AFMD
1777 Hardee Avenue, SW
Fort McPherson, Georgia 30330-1062

OTHER MAJOR COMMANDS

U.S. Army Special Operations Command (SOC)

Address: Commander
U.S. Army Special Operations Command (SOC)
Deputy Chief of Staff for Engineering
ATTN: AOEN-FA
Fort Bragg, North Carolina 20837-5212

US Army Southern Command

Address: Commander
US Army South
Fort Clayton, Panama APO AA 34002

US Army Pacific Command

Address: Commander
US Army Pacific
Building T-100
Fort Shafter, HI 96858-5100

U.S.ARMYRESERVE

The U.S Army Reserve Command (USARC) Command Surgeons Office

Address: The U.S Army Reserve Command (USARC)
Office of the Command Surgeon
3800 North Camp Creek Parkway, SW
Atlanta, GA 30331-5099

Third U.S Army (ARCENT)

Environmental Division, Assistant Chief of Staff, Engineers

Address: Commander
Third U.S. Army
ATTN: AFRD-EN-E
1881 Hardee Avenue, South West
Fort McPherson, GA 30330-1064

Surgeon's Office / Staff Medical Advisor

Address: Commander
Third U.S. Army
Command Surgeon/Staff Medical Advisor
Fort McPherson, GA 30330-1064

First U.S Army

Environmental Division, Assistant Chief of Staff, Engineers

Address: Commander
First U.S Army
Assistant Chief of Staff, Engineers
Environmental Division
Atlanta, GA 30331-5099

Surgeon's Office / Staff Medical Advisor (SMA)

Address: Headquarters, First U.S. Army
ATTN: AFKD-MD
4705 N. Wheeler Drive
Forest Park, GA 30297-5000

USARMYNATIONALGUARD

Environmental Programs Division

Address: Army National Guard Readiness Center
ATTN: NGB-APP-ILE
111 South George Mason Drive
Arlington, VA 22204-1382

The Office of the Surgeon

Address: Army National Guard Readiness Center
ATTN: NGB-ARP-H
111 South George Mason Drive
Arlington, VA 22204-1382

The Army Guard AMEDD Support Center (FOA)

Address: Army National Guard Readiness Center
The Army Guard AMEDD Support Center (FOA)
ATTN: NGB-ARP-H
Arlington, VA 22204-1382

USARMYMATERIALCOMMAND

Office of the Command Surgeon

Address: Commander
U.S. Army Material Command
Office of the Command Surgeon
50001 Eisenhower Avenue
Alexandria, VA 22333-0001

Environmental Quality Division

Address: Commander
U.S. Army Material Command
Environmental Quality Division
ATTN: AMCEN-A
50001 Eisenhower Avenue
Alexandria, VA 22333-0001

Army Acquisition Pollution Prevention Support Office

Address: Commander
US Army Materiel Command
ATTN: AMCRDA-TE-E
5001 Eisenhower Avenue
Alexandria, VA 22333-0001

US Army Research Laboratory (ARL)

Address: Director
US Army Research Laboratory (ARL)
US Army Materiel Command
2800 Powder Mill Road
Adelphi, MD 20783-1197

US Army Research Office (ARO)

Address: Director
U.S. Army Research Office
US Army Materiel Command
P.O. Box 12211
4300 South Miami Boulevard
Research Triangle Park, North Carolina 27707-2211

U.S. Army Armament Research, Development, and Engineering Center (ARDEC), U.S. Army Tank, Automotive and Armaments Command (TAACOM) Industrial Ecology Center

Address: Director
Industrial Ecology Center
ATTN: AMSTA-AR-ET
U.S. Army Armament Research, Development and Engineering Center
Picatinny Arsenal, New Jersey 07806-5000

National Defense Center Environmental Excellence (NDCEE)

Address: National Defense Center Environmental Excellence(NDCEE)
1450 Scalp Avenue
Johnstown, PA. 15904

U.S. Army Edgewood Research, Development, and Engineering Center

Address: Director
U.S. Army Edgewood Research, Development, and Engineering Center
ATTN: SCBRD-ODR-S
Aberdeen Proving Ground, MD 21010-5423

Other Research, Development, and Engineering Centers (RDECs)

Tank-Automotive Research, Development and Engineering Center (TARDEC)
Natick Research, Development and Engineering Center (NRDEC)

Non-medical Materiel Acquisition Program Managers (possible coordination through AAPPSO)

Each materiel development program is required to assess and consider both health and environmental impacts associated with the manufacture and ultimate use of new or modified equipment. Health concerns are addressed through the Army Health Hazard Assessment (HHA) and the Manpower and Personnel Integration (MANPRINT) programs. The HHA program requires involvement of the medical research community.

U.S. ARMY MEDICAL COMMAND

US Army Center for Health Promotion and Preventive Medicine (CHPPM)

Address: Commander
US Army Center for Health Promotion and Preventive Medicine
5158 Black Hawk Road
Aberdeen Proving Ground, MD 21010-5422

Office of the Scientific Advisor

Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-SA
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Directorate of Laboratory Sciences

Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-LLI
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Deputy Chief Of Staff for Operations

Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-CS-OP
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Directorate of Occupational Sciences

Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-O
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Directorate of Toxicology

Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-T
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Directorate of Environmental Health Engineering

Address: Commander
US Army Center for Health Promotion and Preventive Medicine
ATTN: MCHB-DC-E
5158 Black Hawk Road
Aberdeen Proving Grounds, MD 21010-5422

Direct Support Activities

North

Address: Commander
US Army Center for Health Promotion and Preventive
Medicine
Direct Support Activity North
Ft Meade, MD 20755-5225

South

Address: Commander
US Army Center for Health Promotion and Preventive
Medicine
Direct Support Activity SOUTH
1312 Cobb Street SW
Fort McPherson, GA 30330-5000

West

Address: Commander
US Army Center for Health Promotion and Preventive
Medicine
Direct Support Activity West
US Army Garrison: Fitz Simmons
12101 East Coal Sax Avenue
Building 603-2D
Aurora, Colorado 8045-50001

***Europe
Pacific***

***Environmental Health Section, Preventive Medicine Activity, Medical Centers (MEDCENs),
Medical Department Activities (MEDDACs) and Medical Clinics***

North Atlantic Regional Medical Command (NARMC) , Washington, DC

- Walter Reed Army Medical Center , Washington, DC
- Kimbrough Ambulatory Care Center, Fort Meade, Maryland
- Keller Army Community Hospital , West Point, New York
- Andrew Rader U.S. Army Health Clinic , Fort Myer, Virginia
- Womack Army Medical Center, Fort Bragg, North Carolina
 - 44th Medical Brigade, Fort Bragg, North Carolina

- Dewitt Army Community Hospital, Fort Belvoir, Virginia
- Durhan Army Health Clinic, Carlisle Barracks, Pennsylvania
- Guthrie Army Health Clinic, Fort Drum, New York
- Ireland Army Community Hospital, Fort Knox, Kentucky
- Kenner Army Hospital Clinic, Fort Lee, Virginia
- Kirk Army Health Clinic, Aberdeen Proving Ground, Maryland
- McDonald Army Community Hospital, Fort Eustis, Virginia
- Patterson Ambulatory Care Center, Fort Monmouth, New Jersey

Southeast Regional Medical Command (SERMC), Fort Gordon, Georgia

- Dwight David Eisenhower Army Medical Center, Fort Gordon, Georgia
- Moncrief Army Community Hospital, Fort Jackson, South Carolina
- Winn Army Community Hospital, Fort Stewart, Georgia
- Martin Army Community Hospital, Fort Benning, Georgia
- Lyster Army Community Hospital, Fort Rucker, Alabama
- Fox Army Community Hospital, Redstone Arsenal, Alabama
- Blanchfield Army Community Hospital, Fort Campbell, Kentucky

Southwest Regional Medical Command (SWRMC), Fort Bliss, Texas

- William Beaumont Army Medical Center, Fort Bliss, Texas
- McAfee Army Health Clinic, White Sands Missile Range, New Mexico
- Bliss Army Community Hospital, Fort Huachuca, Arizona
 - Satellite Clinic, Yuma Proving Grounds, Arizona
- Weed Army Community Hospital, Fort Irwin, California

Northwest Regional Medical Command (NWRMC), Fort Lewis, Tacoma, Washington

- Madigan Army Medical Center, Fort Lewis, Tacoma, Washington
- Bassett Army Community Hospital, Fort Wainwright, Alaska

Great Plains Regional Medical Command, Fort Sam Houston, Texas

- Brooke Army Medical Center, Ft. Sam Houston, Texas
- Darnall Army Community Hospital, Fort Hood, Texas
- Reynolds Army Community Hospital, Fort Sill, Oklahoma
- Bayne-Jones Army Community Hospital, Fort Polk, Louisiana
- Evans Army Community Hospital, Fort Carson, Colorado
- General Leonard Wood Army Community Hospital, Fort Leonard Wood, Missouri
- Munson Army Community Hospital, Fort Leavenworth, Kansas
- Irwin Army Community Hospital, Fort Riley, Kansas

Pacific Regional Medical Command (SERMC), Honolulu, Hawaii

- Tripler Army Medical Center, Honolulu, Hawaii

U.S. Army Reserve Brigades and Hospitals

- 807th Medical Brigade, Seagoville, Texas
- 94th Army Reserve General Hospital, Seagoville, Texas
- 810th Field Hospital, Oklahoma City, Oklahoma

- 341st Medical Battalion (EVAC), Mesquite, Texas

U.S. Army Medical Research and Materiel Command (MRMC)

Headquarters

Address: Commander
U.S. Army Medical Research and Materiel Command (MRMC)
504 Scott Street
Fort Detrick MD 21702

Research Program Directorate (RPD) - Army Operational Medicine

Address: Commander
U.S. Army Medical Research and Materiel Command (MRMC)
Research Program Directorate III
ATTN: MCMR-PLC
504 Scott Street
Fort Detrick, MD 21702-5012

U.S. Army Center for Environmental Health Research

Address: Director
U.S. Army Center for Environment Health Research
568b Doughton Drive
Fort Detrick, MD 21702-5010

Alternate: Director
U.S. Army Center for Environment Health Research
Center for Environmental Toxicology
Colorado State University
Foothills Campus, Rampart Road
Fort Collins, CO 80521

U.S. Army Research Institute of Environmental Medicine (USARIEM)

Address: Commander
U.S. Army Research Institute of Environmental Medicine
(USARIEM)
Natick, MA 01760-5007

U.S. Army Medical Research Institute of Chemical Defense (USAMRICD)

Address: Commander
U.S. Army Medical Research Institute of Chemical Defense
3100 Ricketts Point Road
Aberdeen Proving Ground, MD 21010-5425

U.S. Army Medical Research Institute of Infectious Disease (USAMRIID)

Address: Commander
U.S. Army Medical Research Institute of Infectious Disease
US Army Medical Research and Materiel Command
Fort Detrick MD 21702-5012

Walter Reed Army Institute of Research (WRAIR)

Address: Commander
Walter Reed Army Institute of Research (WRAIR)
Washington, DC 20307-5100

U.S. Army Medical Research Detachment (WRAIR), Tri-Service Toxicology Consortium

Address: Commander
U.S. Army Medical Research Detachment (WRAIR), Tri-Service
Toxicology Consortium
2800 Q Street
Wright-Patterson Air Force Base, OH 45433-7947

Medical Materiel Acquisition Program Managers

Each materiel development program is required to assess and consider both health and environmental impacts associated with the manufacture and ultimate use of new or modified equipment. Health concerns are addressed through the Army Health Hazard Assessment (HHA) and the Manpower and Personnel Integration (MANPRINT) programs. The HHA program requires involvement of the medical research community.

U.S. Army Medical Center and School (AMEDDC&S)

Address: Commander
U.S. Army Medical Center and School (AMEDDC&S)
Fort Sam Houston, TX 78234

U.S. ARMY TRADOC

Environmental Division

Address: Commander
U.S. Army Training and Doctrine Command
Environmental Division
ATTN: ATBO-SE
Bernard Street
Building 5A, Room 301,
Fort Monroe, VA 23651-5000

Office of the Command Surgeon

Address: Commander
U.S. Army Training and Doctrine Command
Office of the Command Surgeon
ATTN: ATMD
Fort Monroe, VA 23651-5000

The Army Logistics Management College (ALMC)

Address: Commandant
US Army Logistics Management College(ALMC)
Fort Lee, VA 23801

Center for Environmental Initiatives and Hands-On-Training (CEIHOT)

Address: Commander
US Army Field Artillery Center and Fort Sill
ATTN: ATZR-BT
Center for Environmental Initiatives and Hands-On-Training (CEIHOT)
Fort Sill, Oklahoma 73503-5100

U.S. Army Engineer School, Environmental Doctrine and Training Products

Address: Commandant
U.S. Army Engineers School
Environmental Doctrine and Training Products
Fort Leonard Wood, Missouri 65473

U.S. ARMY CORPS OF ENGINEERS

Headquarters U.S. Army Corps of Engineers

Address: Commander
U.S. Army Corps of Engineers(USACE)
20 Massachusetts Avenue, N.W.
Washington, DC 20314-1000

Engineers Strategic Studies Center

Address: Commander
U.S. Army Corps of Engineers(USACE)
Engineers Strategic Studies Center
Room 8104
20 Massachusetts Avenue, NW
Washington DC 20314

Baltimore District Environmental Services

Address: U.S. Army Corps of Engineers(USACE)
Baltimore District Environmental Services
ATTN: Eng Div
P.O. Box 1715
Baltimore, MD 21203-1715

U.S. Army Environmental Training Support Center, Huntsville Division

Address: Commander
U.S. Army Engineering Training Support Center
Huntsville Division
U.S. Army Corps of Engineers
ATTN: CEHR-P-ET
PO Box 1600
Huntsville, Alabama 35807-4301

Environmental Management Program, North Central Division

Address: U.S. Army Corps of Engineers
Environmental Management Program
North Central Division
111 North Canal Street
Chicago, ILL 60606-7205

Defense Environmental Restoration and Formerly Used Defense Site (FUDS) Programs, Rock Island District

Address: US Army Corps of Engineers
Defense Environmental Restoration and Formerly Used Defense Site
(FUDS) Programs, Rock Island District
ATTN: ED-DO
PO Box 2004
Rock Island, IL 61204-2004

US Army Engineer Waterways Experiment Station (WES)

Address: US Army Corps of Engineers
Waterways Experiment Station (WES)
3909 Halls Ferry Road
Vicksburg, Mississippi 39180-6199

Environmental Laboratory/Wetlands Research and Technology Center

Address: US Army Corps of Engineers
Environmental Laboratory & Wetlands Research and Technology
Center
3909 Halls Ferry Road
Vicksburg, Mississippi 39180-6199

Strategic Environmental Research and Development Program

Address: US Army Corps of Engineers
Strategic Environmental Research and Development Program
901 North Stuart Street, Suite 303
Arlington, VA 22230

U.S. Army Corps of Engineers Construction Engineering Research Laboratories (USACERL)

Address:: US Army Corps of Engineers
U.S. Army Corps of Engineers Construction Engineering Research
Laboratories (USACERL)
PO Box 9005
Champaign, IL 61826-9005

JOINT SERVICE AND DOD ORGANIZATIONS

Office of the Deputy Under Secretary of Defense for Environmental Security

Address: Office of the Deputy Under Secretary of Defense for Environmental
Security
3400 Defense Pentagon
Washington, DC 20301-3400

Defense Supply Center, Defense Logistics Agency (DLA) (Hazardous Material Information System)

Address: Defense Supply Center
Defense Logistics Agency (DLA), ATTN: DSCR-VB
(Hazardous Material Information System)
8000 Jefferson Davis Highway
Richmond, VA 23297-5000

Hazardous Technical Information Services (HTIS), Defense Supply Center

Address: Hazardous Technical Information Services (HTIS)
Defense Supply Center, Richmond
ATTN: DSCR-VBC
8000 Jefferson Davis Highway
Richmond, VA 23297-5000

Joint Group on Acquisition Pollution Prevention (JG-APP)

Joint Pollution Prevention Advisory Board (JPPAB)

Address: Joint Pollution Prevention Advisory Board
(Joint Group on Acquisition Pollution Prevention)
Headquarters, U.S. Army Material Command
ATTN: AMCRD-E (Mr. Garcia-Baco)
5001 Eisenhower Avenue
Alexandria, Virginia 22333-0001

Armed Forces Medical Intelligence Center (AFMIC)

Address: Commander
Armed Forces Medical Intelligence Center (AFMIC)
1607 Porter Street
Fort Detrick, MD 21702-5004

Uniformed Services University of the Health Sciences (USUHS)

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Department of Preventive Medicine and Biometrics
Division of Environmental and Occupational Health
4301 Jones Bridge Road
Bethesda, MD 20814-4799

Deputy Assistant Secretary of Defense for Peacekeeping and Humanitarian Assistance

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